

METRICAL BRANCH, SURVEY OF INDIA.

SPIRIT-LEVELLED HEIGHTS

NO. 10 MADRAS PRESIDENCY, CENTRAL PROVINCES,
CENTRAL INDIA AGENCY AND THE UNITED
PROVINCES OF AGRA AND OUDH.

Seasons 1891-92, 1894-95, 1896-97 and 1898-99.

PREPARED IN THE OFFICE OF THE TIDAL AND LEVELLING PARTY,

BY E. J. CONNOR,

UNDER THE DIRECTIONS OF

J. ECCLES, Esq., M. A.,

OFFICIATING SUPERINTENDENT TRIGONOMETRICAL SURVEYS.

PUBLISHED UNDER THE ORDERS OF

COLONEL ST. G. C. GORE, C.S.I., R.E., SURVEYOR GENERAL OF INDIA.



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1903.

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INTRODUCTION.

The heights given in the following tables are referred to the mean level of the sea, *vide* note, at the end of this Introduction, on the corrections which have been applied to the heights in dispersing the closing errors.

The lines of levels from Vizagapatam to Allahabad and from Katni to Sironj, are divided into six sections, *viz* :—

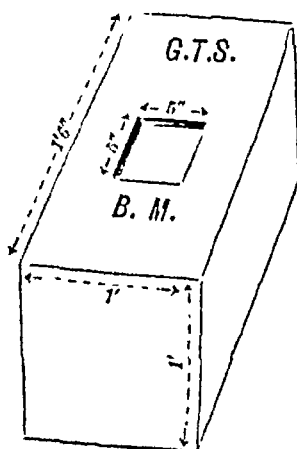
- (I). Section Vizagapatam to Vizianagram, 40 miles, levelled in season 1891-95.
- (II). Section Vizianagram to Raipur, 318 miles, levelled in seasons 1895-96-97.
- (III). Section Raipur to Biláspur, 69 miles, levelled in season 1891-92.
- (IV). Section Biláspur to Katni, 197 miles, levelled in season 1896-97.
- (V). Section Katni to Allahabad, 171 miles, levelled in season 1898-99.
- (VI). Section Katni to Sironj, 199 miles, levelled in season 1898-99.

The embedded bench-marks laid down by the Levelling Party in the Operations are noted in the tables as \square ^{G.T.S.} or \square ^{B.M.}

^{G.T.S.}
B.M. and have been constructed as follows :—

A stone of the dimensions shown in figures 1 and 2 has been built into a block of masonry, from 3 to 4 feet cube, with the upper surface of the stone flush with the upper surface of the masonry, which is about 6 inches below the ground level, and the whole block is covered with earth. These embedded bench-marks have, as a rule, been laid down in the vicinity of Railway Stations, Agency Bungalows, Travellers' Bungalows, Police Stations and Temples; and to mark the spot the letters B.M. have been cut some-
the building close to the bench-

Fig. 1.



mark, or on a stone slab embedded upright in masonry and adjoining the masonry block, so that identification is unmistakable. Certain bench-marks have been embedded in the verandahs of Railway Stations and Bungalows, with the top surface of the stone flush with the floor of the verandah.

The staff was placed vertically in the small sunken square cut a quarter of an inch deep at the centre of the upper face of the stone: the square has a smooth surface, and is large enough to hold the foot of any levelling staff.

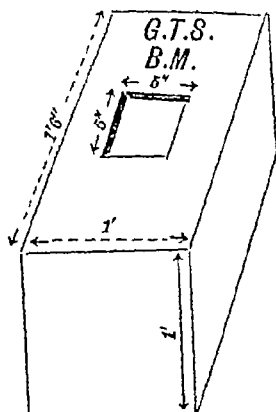
The heights of numerous other bench-marks, called inscribed bench-marks, have also been determined: these are points on parapets and abutments of Railway bridges and culverts, on copings of Railway station platforms and semaphores, on rocks *in situ*, on milestones and boundary pillars, on parapets and guard-stones of road bridges and culverts and on steps of buildings and wells. Besides these the level of the rails at Railway stations and the heights of several Public Works Department and Railway bench-marks have been determined. The inscribed bench-marks have the letters G.T.S. B.M., or simply B.M. and a small circle well cut into the top surface of the stone; the positions of the levelling staff being invariably within the circle.

Each embedded bench-mark is transferred for safe custody to the care of responsible Railway or Civil authorities, as the case may be. The transfer papers are in triplicate: one copy is kept for record in the office of the Tidal and Levelling Party, the second has been retained by the responsible Railway or Civil authorities; and the third by the officer immediately entrusted with the actual care of the bench-mark. Lists of the embedded bench-marks, with the names of the officers to whose custody they have been transferred, are given at the end of the pamphlet.

The observations were taken during the field seasons 1891-92, 1894-95-96-97 and 1898-99 by Mr. J. Bond, Extra Assistant Superintendent, using the 21-inch Standard Level by Troughton and Simms, known in the Survey of India as Cylindrical Level No. 4. He was assisted by the late Surveyor Nar Sing Das, on the section Raipur to Biláspur, season 1891-92; by Surveyor Vinayek Narayan on the sections Vizagapatam to Vizianagram, season 1891-95; Vizianagram to Raipur (from Potanghi to Raipur) season 1895-96 and Biláspur to Katni season 1896-97; by Sub-Surveyor Balwant Atma Ram on portion of the section, Vizianagram to Raipur (from Vizianagram to Potanghi) season 1896-97 and by Mr. J. P. Barker, Extra Assistant Superintendent and by Munshi Syed Zille Hasnain, Sub-Assistant Superintendent, on the sections Katni to Allahabad and Katni to Sironj, season 1898-99; all of whom used 21-inch Standard Level by Troughton and Simms, known as Cylindrical Level No. 3.

The Levelling staves used were of the G. T. Survey pattern, graduated on both faces and otherwise agreeing with the description given of them in Colonel Walker's *Memoranda on Levelling Operations* published in the Appendix to the *Manual of Surveying for India*, Third Edition, (Thacker, Spink and Co., Calcutta, 1875). The staves were compared with a portable steel bar—a copy of the

Fig. 2.



standard 10-foot Bar, the unit of length of the Indian Survey—at the beginning, middle and end of each season's Levelling Operations. The proper corrections have been applied to the heights on account of the differences of the staves from the standard unit.

The levelling was carried on independently by two observers working at a convenient distance apart with different instruments and staves, but on the same pins; and at each station, as a rule, two sets of observations, agreeing within 0·006 of a foot, had to be obtained by the forward leveller, and a similar pair of equal agreement, by the second leveller; and the mean values obtained by both had also to agree within 0·006 of a foot. The rigorous method of procedure, given in Colonel Walker's *Memoranda on Levelling Operations*, was invariably adopted on the main lines, but in short branch lines to G. T. Survey Hill Stations, at such places where the hill slopes were too steep for rigorous spirit-levelling, a horizontal levelling staff carrying a spirit-level was employed, one end of the staff resting on a peg and the other read against an upright levelling staff standing on another peg. The accuracy of this method (certain precautions, such as reversing the level, being observed) has been rigorously tested and found sufficient for determining heights to within an inch, at all distances over which this method has been adopted. The heights so determined are, however, given to the nearest foot only.

(I). Section Vizagapatam to Vizianagram. This section is the latter portion of section Cuttack to Vizagapatam of *Spirit-Levelled Heights No. 9, Orissa and the Northern Circars, season 1894-95, published in 1896*. It emanated from the bench-mark of reference C. of the Vizagapatam Tidal Station, proceeded along the East Coast Railway and closed on the bench-mark embedded at Vizianagram Railway Station. The length of this section is 40 miles, exclusive of 15 miles of branch lines levelled in season 1896-97 to connect the north and south ends of the Vizagapatam base-line and Bor G. T. Survey station, a principal station of the East Coast Series.

(II). Section Vizianagram to Raipur. This section emanated from the embedded bench-mark at Vizianagram Railway Station (No. 314 of Section Cuttack to Vizagapatam of *Spirit-Levelled Heights No. 9, Orissa and the Northern Circars, season 1894-95, published in 1896*) and proceeded along the main road to Sâlûru and along the Itikivalasa-Jeypore road, *viâ* Korâput and the Jubilee ghât to Jeypore; thence along the Agency road *viâ* Naurangapur and Umarkot to the frontier of the Central Provinces; thence along the cart-track *viâ* Borai, Sihâwa, Gatâsili, Dokâl and Kukrel and across the Mahânadi river at Achota ferry to Dhamtari; and finally along the new main road *viâ* Kurûd, Abhanpur and Mâna to Raipur; and closed on the bench-mark embedded at Raipur Railway Station (No. 222 of Section Nâgpur to Bilâspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896*). Thus a connection with the Spirit-levelling from Bombay to False Point was effected. The length of this section is 318 miles, exclusive of 20 miles of branch lines to connect the G. T. Survey stations of Korâput h.s., Sirsi H.S., Hîrâpur H.S., and Hâthbena H.S. of the Bilâspur Meridional Series.

(III). Section Raipur to Bilâspur. This section is the latter portion of section Nâgpur to Bilâspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896* and was levelled in season 1891-92. It emanated from the embedded bench-mark at Raipur Railway Station (No. 222 of Section Nâgpur to Bilâspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896*), proceeded along the main line of the Bengal-Nâgpur Railway and closed on the bench-mark embedded at Bilâspur Railway

Station (No. 300 of Section Nágpur to Biláspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896*). The length of this section is 69 miles, exclusive of a branch line of $3\frac{1}{2}$ miles to connect Biláspur G. T. Survey secondary station and Biláspur Civil station. Bodri G. T. Survey Tower station, a principal station of the Biláspur Meridional Series, was also connected on the main line of levels.

(IV). Section Biláspur to Katni. This section emanated from the embedded bench-mark at Biláspur Railway Station (No. 300 of Section Nágpur to Biláspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896*), proceeded along the Katni branch-line of the Bengal-Nágpur railway and closed on the embedded bench-mark No. 270 at Murwára (Katni) Travellers' Bungalow. The length of this section is 197 miles, exclusive of 16 miles of branch lines to connect the G. T. Survey principal stations of Dala H.S. and Bhalua H.S. of the Biláspur Meridional Series and the bench-marks at Umariá colliery.

(V). Section Katni to Allahabad. This section emanated from the inscribed bench-mark at Katni Railway Station (No. 268 of Section Biláspur to Katni); proceeded along the main road *vid* Rewah to Allahabad; and closed on two bench-marks in Allahabad Fort (*vide Heights in N.W.P. and Bengal to May 1866, published in 1866, Section Cawnpore to Allahabad, page 21*). The length of this section is 162 miles, exclusive of 11 miles of branch lines to connect the G. T. Survey principal stations of Amúa H.S. of the Calcutta Longitudinal, Mailbar H.S. of the Amúa Meridional and Burwa H.S. of the Karára Meridional Series.

(VI). Section Katni to Sironj. This section emanated from the inscribed bench-mark at Katni Railway Station (No. 268 of Section Biláspur to Katni); proceeded along the Indian Midland Railway *vid* Bina to Kethora Railway Station; thence along the main road *vid* Kurwai to Sironj Base-Line and closed on the Sironj Base-Line, N.E. End G. T. Survey Station (No. 56 of Series III, Dewás to Sironj, of *Spirit-Levelled Heights No. 4, Bombay Presidency and Central India Agency, Seasons 1877-78, 1881-82-83-84*). The length of this section is 199 miles, exclusive of 6 miles of branch lines to connect the G. T. Survey principal stations of Salaia H.S., Saugor H.S. and Bhaoráa H.S. of the Calcutta Longitudinal Series.

In the tables the first column headed "No. in Section" contains the consecutive numbers of the bench-marks, the initial bench-mark from which the section emanated being numbered 1. The fractional numbers found in the same column indicate bench-marks of a branch line emanating from the bench-mark whose number is given in the denominator, the numerator being the sectional number or letter of the bench-mark in the branch line. Thus $\frac{14}{58}$ indicates the fourteenth bench-mark of the branch line emanating from bench-mark No. 58 of the main line and $\frac{A}{58}$ indicates the first bench-mark of a second branch line emanating from the same bench-mark.

In the descriptions of the bench-marks, the distances in chains are in terms of Gunter's chain of 66 feet.

The orthography of Indian proper names and words is based on the Official Lists of Madras, the Central Provinces and U. P. of Agra and Oudh, published under the orders of Government, except that the long *e* is unaccented as in all previous publications of this series, but the short *e* is shown thus *é*: the same remarks apply to *o*. Final vowels and those in well-known terminals are unaccented.

As a general rule the pronunciations of the vowels are as follows:—*a* has a variable sound as in *woman*, and as *u* in *bud*; *á* as in *art*; *i* as in *bit*; *í* as in *ravine*; *u* as in *bull*; *ú* as in *rural*; *o* as in *note*; *ó* as in *cot*; *e* as *a* in *say*; *ě* as in *bet*; *au* as *ou* in *cloud*; *ai* as *i* in *ride*.

DEBRA DÚN, }
 September, 1902. }

E. J. CONNOR,
Extra Dy. Supt., Survey of India,
In charge Tidal and Levelling Operations.

NOTE.

NOTE ON THE CORRECTIONS WHICH HAVE BEEN APPLIED TO THE HEIGHTS OF BENCH-MARKS IN THIS PAMPHLET, IN DISPERSING THE CLOSING ERRORS.

The values of height above mean sea level employed in the calculation are:—

- 190·804 feet — the height of the bench-mark embedded at Vizianagram Railway Station. This is bench-mark No. 314 of Section Cuttack to Vizagapatam of *Spirit-Levelled Heights No. 9, Orissa and the Northern Circars, Season 1894-95, published in 1896.*
- 958·770 „ — the height of the bench-mark embedded at Raipur Railway Station. This is bench-mark No. 222 of Section Nágpur to Biláspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896.*
- 888·348 „ — the height of the bench-mark embedded at Biláspur Railway Station. This is bench-mark No. 300 of Section Nágpur to Biláspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Hyderabad Assigned Districts and Central Provinces, Revised Edition, 1896.*
- 298·88 „ — the height of the plinth of the sentry box in Allahabad Fort given in Section Cawnpore to Allahabad page (21) of *Tables of Heights in N.W. Provinces and Bengal, to May 1865, published in 1866.*
- 298·72 „ — the height of G. T. Station Bench-mark embedded in Allahabad Fort given in Section Cawnpore to Allahabad page (21) of *Tables of Heights in N.W. Provinces and Bengal, to May 1865, published in 1866.*
- 1479·017 „ — the height of Sironj Base-Line, N.E. End (upper mark), a principal station of G. T. Survey. This is No. 56 of Series III, Dewás to Sironj, of *Spirit-Levelled Heights No. 4, Bombay Presidency and Central India Agency, Seasons 1877-78, 1881-82-83-84, published in 1885.*

THE CORRECTIONS WHICH HAVE BEEN APPLIED TO THE SEVERAL SECTIONS ARE AS FOLLOWS:—

1. Vizagapatam to Vizianagram—Except a few Branch lines to G. T. Survey stations, all the Bench-marks are reprints from Section Cuttack to Vizagapatam of *Spirit-Levelled Heights No. 9, Orissa and the Northern Circars, Season 1894-95, published in 1896.*
2. Vizianagram to Raipur—The error generated in this section, namely, $+0\cdot011$ of a foot, was dispersed over $317\cdot8$ miles in direct proportion to the distance from Vizianagram.
3. Raipur to Biláspur—All the Bench-marks of this Section are identical with those given on pages 95-110 Section Nágpur to Biláspur of *Spirit-Levelled Heights No. 7, Bombay Presidency, Revised Edition, 1896.*
4. Biláspur to Katni—A most probable value of height of Katni Railway Station (E. I. Ry.) was found by taking the mean of three values obtained by starting from the fixed values of heights of Biláspur, Allahabad and Sironj to Katni. This way the height of Katni was found to be $1254\cdot083$ feet.






The error generated in this section, namely, $-0\cdot941$ of a foot, was dispersed over $196\cdot6$ miles in direct proportion to the distance from Biláspur.
5. Katni to Allahabad—The error generated in this section, namely, $-0\cdot603$ of a foot, was dispersed over $161\cdot5$ miles in direct proportion to the distance from Katni.
6. Katni to Sironj—The error generated in this section, namely, $-0\cdot337$ of a foot, was dispersed over $194\cdot5$ miles in direct proportion to the distance from Katni.

DEHRA DÚN, }
September, 1902.

C. H. McAFEE,
Extra Dy. Supt., Survey of India,
In charge Computing Party.

SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
1	0.0	G.T.S. at VIZAGAPATAM PORT OFFICE. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>This bench-mark is embedded in the pavement of the verandah of the Port Office, nearly opposite the E. door.</p> <p><i>Note.</i>—This bench-mark—the bench-mark of reference of the Vizagapatam Tidal Station—is identical with No. 112 of Section Cocanada to Vizagapatam of <i>Spirit-Levelled Heights No. 4 Madras Presidency</i>, published in 1889.</p> </div> </div>	14.18	In the sunken square cut for the purpose on the stone.
2	0.1	G.T.S. at VIZAGAPATAM LANDING- <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>PLACE. This bench-mark is embedded in a block of masonry, 4 feet square, with its upper surface above the ground: it is situated at the S.W. foot of Vēnkates hill—so named after the temple of Vēnkatesvar situated on the summit—212½ feet N.W. of the large crane on the landing-place, and about 35 feet N. of the main line of railway.</p> <p><i>Note.</i>—This bench-mark is identical with No. 113 of Section Cocanada to Vizagapatam of <i>Spirit-Levelled Heights No. 4 Madras Presidency</i>, published in 1889.</p> </div> </div>	5.02	Ditto.
3	0.1	M.S.L. 2.52 at VIZAGAPATAM LANDING- <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>PLACE. This is a Public Works Department bench-mark, and is engraved on a cut-out ledge of rock at the S.W. foot of Vēnkates hill, 228 feet N.W. of the large crane on the landing-place, about 45 feet N. of the main line of railway, and 14½ feet N.W. of bench-mark No. 2 of this Section.</p> <p><i>Note.</i>—This bench-mark is identical with No. 110 of Section Cocanada to Vizagapatam of <i>Spirit-Levelled Heights No. 4 Madras Presidency</i>, published in 1889.</p> </div> </div>	2.36	On the head of the arrow.
4	0.8	G.T.S. at VIZAGAPATAM RAILWAY STATION. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>This bench-mark is cut on the B.M. coping at the S. end of the platform.</p> <p><i>Note.</i>—This bench-mark is identical with No. 368 of Section Outtack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p> </div> </div>	8.46	Within the circle.
5	0.9	G.T.S. at VIZAGAPATAM RAILWAY STATION. <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">  </div> <div> <p>This bench-mark is cut on the B.M. coping at the N. end of the platform.</p> <p><i>Note.</i>—This bench-mark is identical with No. 367 of Section Cuttack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p> </div> </div>	8.54	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
6	2.1	G.T.S. at WALTAIR RAILWAY STATION. ○ This bench-mark is cut on the coping of B.M. the base of the S.S.E. distant signal. <i>Note.</i> —This bench-mark is identical with No. 363 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1893.</i>	17.27	Within the circle.
7	2.5	G.T.S. at WALTAIR RAILWAY STATION. ○ This bench-mark is cut on the coping of B.M. the platform at the S.S.E. end. <i>Note.</i> —This bench-mark is identical with No. 365 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	23.46	Ditto.
8	2.5	G.T.S. at WALTAIR RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry, 3 feet cube, within the enclosure of the Station Master's quarters, with its upper surface which is covered with earth, 6 inches below the surface of the ground and 2½ feet lower than the floor of the verandah: it is on the W. side of the building, 34 feet W.S.W. of the N.W. corner pillar of the verandah, 69½ feet N.W. of the S.W. corner of the building, and 117½ feet from the N.E. corner of the cook room. <i>Note.</i> —This bench-mark is identical with No. 364 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	26.71	In the sunken square or for the purpose on the stone.
9	2.6	G.T.S. at WALTAIR RAILWAY STATION. ○ This bench-mark is cut on the coping of B.M. the platform at the N.N.W. end. <i>Note.</i> —This bench-mark is identical with No. 363 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	23.63	Within the circle.
10	3.0	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N.E. end of the B.M. N.W. abutment of a girder bridge of three spans, near telegraph post No. $\frac{216}{24}$ <i>Note.</i> —This bench-mark is identical with No. 362 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	20.89	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
11	4.4	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N. end of the E. B.M. abutment of a girder bridge of one span, near telegraph post No. $\frac{218}{10}$. <i>Note.</i> —This bench-mark is identical with No. 361 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	56.01	Within the circle.
12	5.5	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N. end of the W. B.M. abutment of a girder bridge of one span, near telegraph post No. $\frac{219}{10}$. <i>Note.</i> —This bench-mark is identical with No. 360 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	56.29	Ditto.
13	6.6	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N. end of the W. B.M. abutment of a girder bridge of one span, near telegraph post No. $\frac{220}{15}$. <i>Note.</i> —This bench-mark is identical with No. 359 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	54.75	Ditto.
14	7.5	G.T.S. at SIMHACHALAM RAILWAY STATION. This bench-mark is cut on the B.M. coping at the S.E. end of the platform. <i>Note.</i> —This bench-mark is identical with No. 358 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	68.82	Ditto.
15	7.6	G.T.S. at SIMHACHALAM RAILWAY STATION. This bench-mark is cut on the B.M. coping at the N.W. end of the platform. <i>Note.</i> —This bench-mark is identical with No. 357 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	68.71	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
16	7.0	<p>G.T.S. at SIMHACHALAM RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, near the S. corner of the Station Master's quarters, 14 feet and 41 feet respectively from the S. and E. corners of the building, 12 feet 10 inches from the S. corner pillar of the verandah, 144 feet W.S.W. of telegraph post No. $\frac{221}{15}$, 308½ feet N.N.W. of the Home Semaphore, and 305½ feet from the N. corner of the Station building. The upper surface of the bench-mark, which is covered with earth, is 8½ inches below the surface of the ground and 3 feet 2 inches lower than the floor of the Station Master's quarters.</p> <p><i>Note.</i>—This bench-mark is identical with No. 356 of Section Cuttack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	78.80	In the sunken square cut for the purpose on the stono.
17	8.8	<p>G.T.S. at BRIDGE. This bench-mark is cut on the N.W. end of the S.W. parapet of B.M. an arched bridge of five 20-foot spans, near telegraph post No. $\frac{222}{19}$.</p> <p><i>Note.</i>—This bench-mark is identical with No. 355 of Section Cuttack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	56.51	Within the circle.
18	9.8	<p>G.T.S. at BRIDGE. This bench-mark is cut on the coping at the W. end of the N. B.M. abutment of a girder bridge of one span, near telegraph post No. $\frac{223}{18}$.</p> <p><i>Note.</i>—This bench-mark is identical with No. 354 of Section Cuttack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	64.16	Ditto.
19	10.5	<p>G.T.S. at BRIDGE. This bench-mark is cut on the coping at the W. end of the N. abutment of a girder bridge of two spans, near telegraph post No. $\frac{224}{9}$.</p> <p><i>Note.</i>—This bench-mark is identical with No. 353 of Section Cuttack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	63.80	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM. .

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
20	10.9	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the W. end of the S. abutment of a girder bridge of two 20-foot spans, near telegraph post No. $\frac{224}{19}$. O B.M. <i>Note.</i> —This bench-mark is identical with No. 352 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	63.63	Within the circle.
21	12.2	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the W. end of the S. abutment of a girder bridge of five 20-foot spans, near telegraph post No. $\frac{226}{3}$. O B.M. <i>Note.</i> —This bench-mark is identical with No. 351 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	72.20	Ditto.
22	12.6	G.T.S. at CULVERT. This bench-mark is cut on the centre of the W. parapet of a single-arched culvert, near telegraph post No. $\frac{226}{13}$. O B.M. <i>Note.</i> —This bench-mark is identical with No. 350 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	76.63	Ditto.
23	13.8	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the E. end of the S. abutment of a girder bridge of six 20-foot spans, near telegraph post No. $\frac{227}{18}$. O B.M. <i>Note.</i> —This bench-mark is identical with No. 349 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	87.40	Ditto.
24	16.1	G.T.S. at CULVERT. This bench-mark is cut on the W. parapet of a single-arched culvert, near telegraph post No. $\frac{229}{8}$. O B.M. <i>Note.</i> —This bench-mark is identical with No. 348 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	101.99	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
25	16.5	G.T.S. at CULVERT. This bench-mark is cut on the W. parapet of a single-arched O B.M. culvert, near telegraph post No. $\frac{230}{12}$. <i>Note.</i> —This bench-mark is identical with No. 347 of Section Outrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	126.03	Within the circle.
26	17.4	G.T.S. at CULVERT. This bench-mark is cut on the W. parapet of a culvert with O B.M. three vents, near telegraph post No. $\frac{231}{9}$. <i>Note.</i> —This bench-mark is identical with No. 346 of Section Outrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	145.82	Ditto.
27	18.0	G.T.S. at BRIDGE. This bench-mark is cut on the N. end of the E. parapet of a O B.M. double-arched bridge, near telegraph post No. $\frac{231}{23}$. <i>Note.</i> —This bench-mark is identical with No. 345 of Section Outrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	162.33	Ditto.
28	18.2	G.T.S. at BRIDGE. This bench-mark is cut on the E. parapet of a double-arched O B.M. bridge, near telegraph post No. $\frac{232}{6}$. <i>Note.</i> —This bench-mark is identical with No. 344 of Section Outrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	169.28	Ditto.
29	18.7	G.T.S. at KOTTAVALASA RAILWAY STA- O TION. This bench-mark is cut on the B.M. coping at the S. end of the platform. <i>Note.</i> —This bench-mark is identical with No. 343 of Section Outrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	173.37	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
30	18·8	G.T.S. at KOTTAVALASA RAILWAY STATION. This bench-mark is cut on the B.M. coping at the N. end of the platform. <i>Note.</i> —This bench-mark is identical with No. 342 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	173·33	Within the circle.
31	18·8	G.T.S. at KOTTAVALASA RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, near the S.W. corner of the Station Master's quarters: it is 12½ feet S. of the S.W. corner pillar of the verandah, 33½ feet from the S.E. corner of the building, 185 feet 10 inches E.N.E. of the bench-mark (G.T.S.) cut on the coping at the N. end of the B.M. platform, 109½ feet N.E. of telegraph post No. $\frac{232}{18}$, and 272½ feet N. of the N.E. corner of the Station building. The upper surface of the bench-mark, which is covered with earth, is 8 inches below the surface of the ground and 3½ feet lower than the floor of the Station Master's quarters. <i>Note.</i> —This bench-mark is identical with No. 341 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	172·41	In the sunken square cut for the purpose on the stone.
32	19·1	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the E. end of the S. abutment of a girder bridge of three 20-foot spans, near telegraph post No. $\frac{233}{2}$. <i>Note.</i> —This bench-mark is identical with No. 340 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	172·51	Within the circle.
33	20·1	G.T.S. at BRIDGE. This bench-mark is cut on the centre of the E. parapet of a single-arched bridge, near telegraph post No. $\frac{234}{3}$. <i>Note.</i> —This bench-mark is identical with No. 339 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	205·46	· Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
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*Branch line to VIZAGAPATAM BASE-LINE SOUTH END
G. T. SURVEY STATION.*

1 33	1-7*	<p>VIZAGAPATAM BASE-LINE SOUTH END G. T. SURVEY STATION, lat. $17^{\circ} 55' 38''$, long. $83^{\circ} 14' 9''$. This is the southern extremity of the base-line measured in 1862-63, and a principal station of the East Coast Series, situated on the northern slope of the rocky ridge running E. and W. between Gumrukūnda and Nandimetta; about 0.3 of a mile W.S.W. (and in the lands) of Ballighātām, in the Srungavarapūkota tāluk of the Vizagapatam district; and 3 miles N. of Kottavalasa Railway Station.</p> <p>It was built in the first instance as a simple platform station, with 3 circular mark-stones each 38 inches in diameter and 6 inches thick, placed vertically over each other, the lowest stone resting on hard clay 2 feet below the surface of the ground, with a 4-inch layer of masonry between the bottom and middle stones and a 9-inch layer between the middle and top stones. Subsequently a wall of out-stone masonry 1.5 feet thick and forming an enclosure of 5 feet 10 inches square was built round the mark-stones to the depth of 4 feet below the ground for the better protection of the marks and to serve as a foundation for the dome erected over the station. The marks as usual is represented by a dot on silver in a brass plug let into the stone. Each of the three stones has this mark, the two upper ones being carefully plumbed over the lowest. The uppermost mark is the one to which the measurement was referred. A pyramidal stone about 20 inches square by 15 inches high, hollowed out at the base, is placed as a cap over the mark, and a out-stone masonry dome rises to the height of about 12 feet over the station. The dome is without any opening so as to prevent access to the marks.</p> <p><i>Note.</i>—When visited by the Levelling Party the roof of the domed building was found broken open and stones and rubbish had been thrown into the building completely covering the pyramidal stone cap which protects the uppermost mark. The station marks were found intact and on the completion of the work the building was repaired and built up as before without any opening to prevent access to the marks.</p>	311.56	On the uppermost mark.
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SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
34	21.1	G.T.S. at CULVERT. This bench-mark is cut on the centre of the W. parapet of a culvert with two vents, near telegraph post No. $\frac{235}{2}$. <i>Note.</i> —This bench-mark is identical with No. 333 of Section Cutback to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	239.54	Within the circle.
35	22.4	G.T.S. at BRIDGE. This bench-mark is cut on the centre of the N.W. parapet of an arched bridge of two 20-foot spans, near telegraph post No. $\frac{236}{11}$. <i>Note.</i> —This bench-mark is identical with No. 337 of Section Cutback to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	250.85	Ditto,
36	23.3	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N.W. end of the S.W. abutment of a girder bridge of two 20-foot spans, near telegraph post No. $\frac{237}{8}$. <i>Note.</i> —This bench-mark is identical with No. 336 of Section Cutback to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	241.18	Ditto,
37	24.6	G.T.S. at CULVERT. This bench-mark is cut on the N.W. parapet of a single-arched culvert, near telegraph post No. $\frac{238}{15}$. <i>Note.</i> —This bench-mark is identical with No. 335 of Section Cutback to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	218.02	Ditto,
38	27.3	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the N.W. parapet of a single-arched bridge near telegraph post No. $\frac{241}{7}$. <i>Note.</i> —This bench-mark is identical with No. 334 of Section Cutback to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	149.34	Ditto,

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
39	28.0	G.T.S. at BRIDGE. This bench-mark is cut ○ on the S.W. end of the N.W. parapet B.M. of an arched bridge of eight 20-foot spans, near telegraph post No. $\frac{242}{1}$ <i>Note.—This bench-mark is identical with No. 333 of Section Cuttack to Vizagapatam of Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	126.37	Within the circle.
40	28.6	G.T.S. at CULVERT. This bench-mark is cut ○ on the S.W. end of the S.E. parapet of B.M. a single-arched culvert, near telegraph post No. $\frac{242}{14}$ <i>Note.—This bench-mark is identical with No. 332 of Section Cuttack to Vizagapatam of Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	128.47	Ditto.
41	28.8	G.T.S. at ALAMANDA RAILWAY STA- TION. This bench-mark is cut on the B.M. coping of the base of the S.W. distant signal. <i>Note.—This bench-mark is identical with No. 331 of Section Cuttack to Vizagapatam of Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	133.87	Ditto.
42	29.2	G.T.S. at ALAMANDA RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry, 4 feet cube, in the station platform, with its upper surface a few inches below the level of the platform and covered with earth: it is between the S.W. entrance to the station plat- form and the Home Semaphore, 32 feet from the former and 9 feet N.W. of the latter, 19½ feet from the S. corner pillar of the station verandah, 33 feet from the S. corner of the Booking Office, and 48 feet 8 inches from the W. corner of the station building. <i>Note.—This bench-mark is identical with No. 330 of Section Cuttack to Vizagapatam of Spirit-Levelling Heights No. 9 Orissa and the Northern Circars, published in 1896.</i>	142.30	In the sunken square cut for the purpose on the stone.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line, to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
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*Branch line to VIZAGAPATAM BASE-LINE, NORTH END,
G. T. SURVEY STATION.*

$\frac{1}{42}$	3-1*	G.T.S. at BAR-COMPARISON PILLAR. O This bench-mark is cut on the top of B.M. the south bar-comparison stone pillar, 29 chains E. of the N. end station of the Vizagapatam Base-Line.	183-19	Within the circle.
$\frac{2}{42}$	3-1*	VIZAGAPATAM BASE-LINE, NORTH END, G. T. SURVEY STATION. lat. $18^{\circ} 1' 3''$, long. $83^{\circ} 16' 11''$. This is the north extremity of the base-line measured in 1862-63, and a principal station of the East Coast Series, situated about 0-75 of a mile S.E. (and in the lands) of Rāmbhadrāpuram-Agrahāram, in the Brungavarapākota tāluk of the Vizagapatam district: it is 3 miles W. of Alamanda Railway Station and nearly 2 miles N.W. of Alamanda Auxiliary Hill Station of the base-line verifactory minor triangulation. The foundation of the station is a solid mass of rubble masonry 9 feet square, and 4 feet deep below the ground level, resting on a hard bed of gravel. In the foundation, but isolated from it by an annulus, there are 3 circular mark-stones, 38 inches in diameter by 6 inches thick, the lowermost resting about 2 feet from the bottom, and the two others in order vertically, at intervals of 3 inches apart. Above the ground level there is a platform of cut-stone masonry, 8 feet square and 1 foot high reaching to the edge of the annulus; there is also a fourth mark-stone resting over the others and separated from the nearest by a 6-inch layer of masonry. In the lowest mark-stone a dot surrounded by a circle has been engraved on the stone, on the others the mark is the usual dot on silver in a brass plug 1 inch square by 2 inches deep let into the stone. The three upper marks were carefully plumbed over the lowest one. A pyramidal stone cap about 20 inches square by 16 inches high hollowed out at the base, protects the uppermost mark, and a cut-stone masonry dome rises to the height of about 12 feet over the station. The dome is without any opening so as to prevent access to the marks. The uppermost mark is the one to which the measurement was referred. <i>Note.</i> —When visited by the Levelling Party the domed building was found in fair preservation and the station marks intact.	182-16	On the uppermost mark.

* From Bench-mark No. 42.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram

No in Section	Approximate Distance in Miles from Vizagapatam	STATION.	Height in Feet above Mean Sea Level	Position of Levelling Staff
43	29 2	G.T.S. at ALAMANDA RAILWAY STATION ○ This bench mark is cut on the coping at the S.W. end of the platform <i>Note</i> —This bench mark is identical with No 329 of Section Outrack to Vizagapatam of <i>Spirit Levelling Heights No 9 Orissa and the Northern Circars, published in 1896</i>	142 37	Within the circle,
44	29 3	G.T.S. at ALAMANDA RAILWAY STATION. ○ This bench mark is cut on the coping at the N.E. end of the platform <i>Note</i> —This bench mark is identical with No 328 of Section Outrack to Vizagapatam of <i>Spirit Levelling Heights No 9 Orissa and the Northern Circars, published in 1896</i>	142 36	Ditto.
45	30 0	G.T.S. at BRIDGE This bench mark is cut on the N.E. end of the N.W. parapet of a double arched bridge, near telegraph post No $\frac{244}{2}$ <i>Note</i> —This bench mark is identical with No 327 of Section Outrack to Vizagapatam of <i>Spirit Levelling Heights No 9 Orissa and the Northern Circars, published in 1896</i>	125 91	Ditto.
46	30 9	G.T.S. at BRIDGE This bench mark is cut on the N.E. end of the N.W. parapet of an arched bridge of four 20 foot spans, near telegraph post No $\frac{245}{1}$. <i>Note</i> —This bench mark is identical with No 326 of Section Outrack to Vizagapatam of <i>Spirit Levelling Heights No 9 Orissa and the Northern Circars, published in 1896</i> .	106 69	Ditto.
47	31 1	G.T.S. at CULVERT This bench mark is cut on the N.E. end of the N.W. parapet of a single arched culvert, near telegraph post No $\frac{245}{5}$ <i>Note</i> —This bench mark is identical with No 325 of Section Outrack to Vizagapatam of <i>Spirit Levelling Heights No 9 Orissa and the Northern Circars, published in 1896</i>	99 52	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
48	32.4	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the S.E. end of the N.E. B.M. abutment of a girder bridge of five 100-foot spans, near telegraph post No. $\frac{246}{7}$. <i>Note.</i> —This bench-mark is identical with No. 324 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	104.75	Within the circle.
49	33.3	G.T.S. at BRIDGE. This bench-mark is cut on the coping at the N. end of the W. B.M. abutment of a girder bridge of one span, near telegraph post No. $\frac{237}{8}$. <i>Note.</i> —This bench-mark is identical with No. 323 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	98.20	Ditto.
50	34.4	G.T.S. at CULVERT. This bench-mark is cut on the centre of the N. parapet of a B.M. culvert with one vent, near telegraph post No. $\frac{248}{10}$. <i>Note.</i> —This bench-mark is identical with No. 322 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	119.92	Ditto.
51	35.4	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the N.W. parapet of a B.M. single-arched bridge, near telegraph post No. $\frac{249}{11}$. <i>Note.</i> —This bench-mark is identical with No. 321 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	138.03	Ditto.
52	36.7	G.T.S. at BRIDGE. This bench-mark is cut on the S.W. end of the N.W. parapet of a B.M. single-arched bridge, near telegraph post No. $\frac{250}{17}$. <i>Note.</i> —This bench-mark is identical with No. 320 of Section Cuttack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	163.10	Ditto.

SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
53	37.3	G.T.S. at BRIDGE. This bench-mark is cut on the centre of N.W. parapet of a single-arched bridge, near telegraph post No. $\frac{251}{8}$. B.M. <i>Note.</i> —This bench-mark is identical with No. 319 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	168.10	Within the circle.
54	38.0	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the N.W. parapet of a single-arched bridge, near telegraph post No. $\frac{252}{3}$. B.M. <i>Note.</i> —This bench-mark is identical with No. 318 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	179.68	Ditto.
55	38.3	G.T.S. at DRAIN. This bench-mark is cut on the N. parapet of a drain with two vents, near telegraph post No. $\frac{252}{9}$. B.M. <i>Note.</i> —This bench-mark is identical with No. 317 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	184.15	Ditto.
56	39.3	G.T.S. at CULVERT. This bench-mark is cut on the S.E. parapet of a single-arched culvert, near telegraph post No. $\frac{258}{9}$. B.M. <i>Note.</i> —This bench-mark is identical with No. 316 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	192.24	Ditto.
57	40.2	G.T.S. at VIZIANAGRAM RAILWAY STATION. This bench-mark is cut on the B.M. S. end of the coping of the platform. <i>Note.</i> —This bench-mark is identical with No. 315 of Section Outtrack to Vizagapatam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	196.28	Ditto.

SECTION—VIZAGAPATAM TO VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway I to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
68	40.2	<p>G.T.S. at VIZIANAGRAM RAILWAY STATION. This bench-mark is embedded B.M. in a block of masonry, 3 feet cubic, on the S. side of the Permanent Way Inspector's quarters, with its upper surface 4 inches below the surface of the ground and covered with earth: it is 38½ feet W. of the S.E. corner of the building and 12½ feet S. of the S.W. corner pillar of the verandah, 22½ feet from the S.E. corner of the station building, 166½ feet from the bench-mark (G.T.S. O B.M.) cut on the S. end of the coping of the platform, 142½ feet N.E. of the iron cylinder of the water-tank, and 161½ feet from the centre of the main-line of Railway.</p> <p><i>Note.</i>—This bench-mark is identical with No. 314 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	190.80	In the sunken square cut for the purpose on the stone.

Branch line to BOR G. T. SURVEY STATION.

$\frac{1}{58}$	1.2*	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 1 from Vizianagram on the road to Kásipatnam.	227.58	Within the circle.
$\frac{2}{58}$	2.2*	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 2 from Vizianagram on the road to Kásipatnam.	224.45	Ditto.
$\frac{3}{58}$	2.9*	G.T.S. at SOMALGATTI-ITU HAMLET. O B.M. This bench-mark is cut on the stone cap of a masonry pillar 4½ feet high situated on the S. margin of the road from Vizianagram to Kásipatnam, 17 chains E. of milestone No. 3 from Vizianagram. The pillar is situated opposite the hamlet of Somalgatti-Itu, at a way-side resting-place and is used for travellers' burdens.	229.32	Ditto.
$\frac{4}{58}$	3.2*	G.T.S. at MILESTONE. This bench-mark is O B.M. cut on the top of milestone No. 3 from Vizianagram on the road to Kásipatnam.	205.74	Ditto.
$\frac{5}{58}$	4.2*	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 4 from Vizianagram on the road to Kásipatnam.	165.78	Ditto.

* From Bench-mark No. 58.

SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
53	37.3	G.T.S. at BRIDGE. This bench-mark is cut on the centre of N.W. parapet of a single-arched bridge, near telegraph post No. $\frac{251}{8}$. <i>Note.</i> —This bench-mark is identical with No. 319 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	168.10	Within the circle.
54	38.0	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the N.W. parapet of a single-arched bridge, near telegraph post No. $\frac{252}{8}$. <i>Note.</i> —This bench-mark is identical with No. 318 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	179.83	Ditto.
55	38.8	G.T.S. at DRAIN. This bench-mark is cut on the N. parapet of a drain with two vents, near telegraph post No. $\frac{252}{9}$. <i>Note.</i> —This bench-mark is identical with No. 317 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	184.15	Ditto.
56	39.3	G.T.S. at CULVERT. This bench-mark is cut on the S.E. parapet of a single-arched culvert, near telegraph post No. $\frac{253}{9}$. <i>Note.</i> —This bench-mark is identical with No. 316 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	193.24	Ditto.
57	40.2	G.T.S. at VIZIANAGRAM RAILWAY STATION. This bench-mark is cut on the S. end of the coping of the platform. <i>Note.</i> —This bench-mark is identical with No. 315 of Section Outtrack to Vizagapatam of <i>Spirit-Levelled Heights No. 9 Orissa and the Northern Circars</i> , published in 1896.	196.28	Ditto.

SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
$\frac{6}{58}$	4.7*	G.T.S. at BRIDGE. This bench-mark is cut on the W. guard-stone of the N. parapet of a 20-foot single-arched bridge, midway between milestones Nos. 4 and 5 from Vizianagram on the road to Kásipatnam. O B.M.	163.14	Within the circle.
$\frac{7}{58}$	5.2*	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 5 from Vizianagram on the road to Kásipatnam.	181.39	Ditto.
$\frac{8}{58}$	5.9*	G.T.S. at BRIDGE. This bench-mark is cut on the E. guard-stone of the N. parapet of a 20-foot single-arched bridge, 22½ chains E. of milestone No. 6 from Vizianagram on the road to Kásipatnam. O B.M.	167.60	Ditto.
$\frac{9}{58}$	6.2*	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 6 from B.M. Vizianagram on the road to Kásipatnam. O	180.09	Ditto.
$\frac{10}{58}$	6.6*	O at DURGA-ANMA TEMPLE. This B.M. bench-mark is cut on the N.W. corner-stone of the plinth of the temple. The temple is situated on the S. margin of the road from Vizianagram to Kásipatnam, 35 chains W. of milestone No. 6 from Vizianagram.	203.68	Ditto.
$\frac{11}{58}$	7.2*	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 7 from B.M. Vizianagram on the road to Kásipatnam. O	226.60	Ditto.
$\frac{12}{58}$	7.3*	G.T.S. at GUNTÍARA VILLAGE TANK. This bench-mark is cut on the E. end of the top step of the N. flight of steps leading to the tank: it is opposite the temple of Malik-Arjún Swami situated at the E. end of the village. O B.M.	212.93	Ditto.
$\frac{13}{58}$	9.1*	G.T.S. at BOR HILL. This bench-mark is cut on the foot of the hill rock, at the E. extremity of the S. end, 50 feet N. of the cart-track to Guntíara and 231 feet E. of the indigo factory. O B.M.	238.60	Ditto.

* From Bench-mark No. 58.

SECTION—VIZAGAPATAM to VIZIANAGRAM.

Spirit Levelling from Vizagapatam along the East Coast Railway Line to Vizianagram.

No. in Section.	Approximate Distance in Miles from Vizagapatam.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
11 65	9.4*	BOR G. T. SURVEY STATION, lat. $16^{\circ} 9' 45''$, long. $83^{\circ} 20' 11''$. This is a principal station of the East Coast Series, and is situated on the summit of an isolated hill composed of a single rock rising about 250 feet above the plain. A masonry temple dedicated to Mahadeo, locally called Mahak-svāmi, also stands on the top of the hill 78 feet E. of the station. It is in the lands of the village of Guntfira, taluk Vizianagram, district Vizagapatam. The station consists of a solid pillar built of strong masonry, containing two marks the upper 2.17 feet above the lower which is engraved on the rock <i>in situ</i> , and is enclosed by a platform of stones and earth 16½ feet square. The estimated bearings and distances of the circumjacent villages are Guntfira S., miles 1.5; Neliti E., miles 1.5; Gondā N. by W., mile 1; and the city of Vizianagram lies E. by S., miles 8. <i>Note.</i> —The station when visited by the Levelling Party was found in good order. It is not protected by the usual rectangular pillar of masonry, built over the circular pillar, but by a circular covering of 'stones in earth' 10 feet in diameter rising 2½ feet above the top surface of the platform.	465.62	On the upper mark.

Branch line to VIZIANAGRAM TANK, S.E. CORNER.

A 68	0.5*	O at VIZIANAGRAM TANK, S. E. COR- G.T.S. SER. This benchmark is cut on the H.M. top of the kerbstones at the S.E. corner of the tank and on the E. side of the flight of steps leading to the water; it is about 10 chains W. of the S.W. bottom of the fort and residence of the Raja.	155.88	Within the circle.
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* From Bench-mark No. 65.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence vid Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
1	0.0	<p>G.T.S. at VIZIANAGRAM RAILWAY STATION. This bench-mark is embedded B.M. in a block of masonry, 3 feet cube, on the S. side of the Permanent Way Inspector's quarters, with its upper surface 4 inches below the surface of the ground and covered with earth: it is 38½ feet W. of the S.E. corner of the building and 12½ feet S. of the S.W. corner pillar of the verandah, 22½ feet from the S.E. corner of the Station building, 166½ feet from the bench-mark (G.T.S.) cut on the S. end of the coping of the platform, 142½ feet N.E. of the iron cylinder of the water-tank, and 161½ feet from the centre of the main line of railway.</p> <p><i>Note.</i>—This bench-mark is identical with No. 314 of Section Cuttack to Vizagapatnam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	190.80	In the sunken square cut for the purpose on the stone.
2	0.1	<p>at VIZIANAGRAM RAILWAY STATION. This bench-mark is cut on the coping at the N. end of the platform. (Railway bench-mark to which the letters G.T.S. B.M. have been added).</p> <p><i>Note.</i>—This bench-mark is identical with No. 313 of Section Cuttack to Vizagapatnam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	196.22	On the head of the arrow.
3	0.4	<p>at BRIDGE. This bench-mark is cut on the D. parapet of a single-arched bridge, near telegraph post No. 254. 16.</p> <p>(Railway bench-mark to which the letters G.T.S. B.M. have been added).</p> <p><i>Note.</i>—This bench-mark is identical with No. 312 of Section Cuttack to Vizagapatnam of <i>Spirit-Levelling Heights No. 9 Orissa and the Northern Circars</i>, published in 1896.</p>	193.78	In the centre of the square.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarnkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
4	1.0	G.T.S. at VIZIANAGRAM CANTONMENT ○ BĀZĀR. This bench-mark is cut on a B.M. large rock <i>in situ</i> at the crossing of the roads from Salūru and Kāsīpatnam, near the N.W. corner of the cantonment bāzār, 1.76 chains W.S.W. of Mohidin Khan's House and about $\frac{1}{2}$ a mile W. of the railway crossing.	217.42	Within the circle.
5	1.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 1 from Vizianagram.	211.80	Ditto.
6	1.7	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> at the foot of a hill and on B.M. the W. margin of the road 1.1 feet above its surface: it is 0.86 chains W. of furlongstone No. 4 from milestone No. 1 from Vizianagram.	237.96	Ditto.
7	2.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 2 from Vizianagram.	259.49	Ditto.
8	3.2	G.T.S. at MILESTONE. This bench-mark is ○ B.M. Vizianagram.	330.79	Ditto.
9	4.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 4 from Vizianagram.	282.34	Ditto.
10	5.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 5 from Vizianagram.	319.44	Ditto.
11	6.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 6 from Vizianagram.	291.48	Ditto.
12	7.2	G.T.S. at MILESTONE. This bench-mark is B.O.M. cut on the top of milestone No. 7 from Vizianagram.	232.94	Ditto.
13	7.6	B.M. at CULVERT. This bench-mark is cut on the S. guard-stone of the W. parapet of a culvert with 7 arches, 4.16 chains N.N.W. of furlongstone No. 3 from milestone No. 7 from Vizianagram.	205.38	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sáláru: thence vid Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
14	8.2	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 8 from Vizianagram. O B.M.	208.00	Within the circle.
15	9.2	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 9 from Vizianagram. B.O.M.	271.21	Ditto.
16	10.2	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 10 from Vizianagram. B.O.M.	262.27	Ditto.
17	10.8	G.T.S. at ROCK. This bench-mark is cut on a large flat rock <i>in situ</i> on the S.W. side of the road and 1½ feet lower than its surface, 6.12 chains S.E. of furlongstone No. 6 from milestone No. 10 from Vizianagram. O B.M.	224.08	Ditto.
18	11.2	O at BRIDGE. This bench-mark is cut on the N.W. guard-stone of the N.E. parapet of a single-arched bridge, 1.60 chains W. of milestone No. 11 from Vizianagram. G.T.S. B.M.	218.33	Ditto.
19	12.2	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 12 from Vizianagram. B.O.M.	210.23	Ditto.
20	12.6	G.T.S. at GAJAPATINAGARAM TRAVELLERS' BUNGALOW. This bench-mark is cut on a large flat rock <i>in situ</i> on the S. margin of the road leading from the main road to the local fund bungalow: it is 82 feet W. of the main road and 155 feet E. of the E. corner of the bungalow. O B.M.	233.41	Ditto.
21	18.4	G.T.S. at GAJAPATINAGARAM SUB-MAGISTRATE'S COURT. This bench-mark is embedded in a block of masonry, 8 feet cube, in front of the building and to the left, or N. side, in line with the row of prisoners' cells; with its upper surface 8 inches below the level of the ground and covered with earth: it is 10 feet and 82½ feet respectively from the N.W. and S.W. corners of the building, 3 feet 8 inches away from the wall, and 61 feet S.E. of a masonry well within the court enclosure. The letters B.M. have been cut on a stone, let into the W. face of the row of cells, to indicate the position of the bench-mark. O B.M.	220.27	In the sunken square cut for the purpose on the stone.

SECTION—VIZIANAGRAM to RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
22	14·3	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 14 from Vizianagram.	229·46	Within the circle.
23	15·2	G.T.S. at ROOK. This bench-mark is cut on a rock <i>in situ</i> on the W. margin of the road, 3·11 chains S. of furlongstone No. 7 from milestone No. 14 from Vizianagram and about $\frac{1}{4}$ a mile W. of the village of Madapādu-Agrahāram.	253·05	Ditto.
24	16·4	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 16 from Vizianagram.	310·44	Ditto.
25	17·2	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 17 from Vizianagram.	300·07	Ditto.
26	18·2	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 18 from Vizianagram.	247·69	Ditto.
27	19·0	G.T.S. at MĀNĀPURAM TANK. This bench-mark is cut on the 12th step from the B.M. bottom, or 2nd step from the top, of the flight of steps, on the W. margin of the road, leading to the tank opposite the village of Mānāpuram; 1·35 chains W. of the village well.	265·79	Ditto.
28	19·3	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 19 from Vizianagram.	272·74	Ditto.
29	19·6	O at OULVERT. This bench-mark is cut B.M. on the N. guard-stone of the E. parapet of a culvert with one vent, 28·74 chains N. of milestone No. 19 from Vizianagram.	235·27	Ditto.
30	20·3	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 20 from Vizianagram.	298·75	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
31	20.8	○ at CULVERT. This bench-mark is cut B.M. on the S. guard-stone of the E. parapet of a culvert with one vent, midway between milestones Nos. 20 and 21 from Vizianagram.	308.44	Within the circle.
32	21.3	D.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 21 from Vizianagram.	328.72	Ditto.
33	21.7	G.T.S. at MARDAM CHATTRAM. This bench-mark is embedded in a block of masonry, 3 feet cube, on the N. side of the Chattram and near the N.W. corner, with its upper surface $4\frac{1}{2}$ inches below the level of the ground and covered with earth: it is $8\frac{1}{2}$ feet N.E. of the N.W. corner of the Chattram, $90\frac{1}{2}$ feet from the N.E. corner and 6 feet 7 inches away from the wall. A stone embedded upright in masonry and adjoining the S. side of the masonry block, $1\frac{1}{2}$ feet being above the surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark. The Chattram, a resting-place for travellers, is situated 155 feet east of the road and $21\frac{1}{2}$ miles from Vizianagram.	344.44	In the sunken square cut for the purpose on the stone.
34	22.3	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 22 from Vizianagram.	357.40	Within the circle.
35	23.1	G.T.S. at CULVERT. This bench-mark is cut on the N.N.W. guard-stone of E.N.E. B.M. parapet of a single-arched culvert, $14\frac{1}{2}$ chains S.S.E. of milestone No. 23 from Vizianagram.	395.43	Ditto.
36	23.8	○ at CULVERT. This bench-mark is cut B.M. on the S. guard-stone of the E. parapet of a culvert with one vent, $1\frac{1}{2}$ chains S. of fur-longstone No. 4 from milestone No. 23 from Vizianagram.	429.31	Ditto.
37	24.3	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 24 from Vizianagram.	399.82	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
38	25.3	G.T.S. at OULVERT. This bench-mark is on the S.E. guard-stone of the N.E. B.M. parapet of a culvert with one vent, 0.96 chains S. of milestone No. 25 from Vizianagram.	426.28	Within the circle.
39	25.3	B.O.M. at MILESTONE. This bench-mark is on the top of milestone No. 25 from Vizianagram.	424.31	Ditto.
40	25.6	O at OULVERT. This bench-mark is on the top of the S.E. guard-stone of the N.E. parapet of a culvert with one vent, 4 chains N.W. of furlongstone No. 2 from milestone No. 25 from Vizianagram.	415.87	Ditto.
41	26.3	B.O.M. at MILESTONE. This bench-mark is on the top of milestone No. 26 from Vizianagram.	468.54	Ditto.
42	27.2	G.T.S. at OULVERT. This bench-mark is on the S.E. guard-stone of the N.E. B.M. parapet of a single-arched culvert, 9.20 chains S.E. of milestone No. 27 from Vizianagram.	429.30	Ditto.
43	28.3	B.O.M. at MILESTONE. This bench-mark is on the top of milestone No. 28 from Vizianagram.	499.84	Ditto.
44	28.7	G.T.S. at OULVERT. This bench-mark is on the S. guard-stone of the W. parapet of a culvert with one vent, 7 chains N. of furlongstone No. 2 from milestone No. 28 from Vizianagram.	483.09	Ditto.
45	29.3	O at MILESTONE. This bench-mark is on the top of milestone No. 29 from Vizianagram.	488.68	Ditto.
46	29.9	O at CULVERT. This bench-mark is on the top of the E. guard-stone of the B.M. N. parapet of a single-arched culvert, 6 chains W. of the junction of the road from Bobbili and 4.23 chains N.E. of Rāmbhadrāpuram village well, situated to the E. of the village.	446.93	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
47	30.8	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 1 from Rámabhadrápúram.	473.02	Within the circle.
48	31.0	○ at CULVERT. This bench-mark is cut B.M. on the E. guard-stone of the S. parapet of a single-arched culvert, 15.54 chains W. of milestone No. 1 from Rámabhadrápúram.	471.76	Ditto.
49	31.9	○ at CULVERT. This bench-mark is cut B.M. on the E. guard-stone of the S. parapet of a single-arched culvert, 6.54 chains W. of milestone No. 2 from Rámabhadrápúram.	486.10	Ditto.
50	32.8	○ at CULVERT. This bench-mark is cut B.M. on the E. guard-stone of the N. parapet of a culvert with three vents, 6 chains E. of milestone No. 3 from Rámabhadrápúram.	486.25	Ditto.
51	32.9	B. O. M. at MILESTONE. This bench-mark is cut on the top of milestone No. 3 from Rámabhadrápúram.	483.02	Ditto.
52	34.7	G.T.S. at SÁLÚRU NADI FORD, S.E. BANK. ○ This bench-mark is cut on the top of the 7th kerb-stone on the S.W. side of the road, counting from the S.E. side of the river, 6.60 chains S.E. of milestone No. 5 from Rámabhadrápúram.	467.42	Ditto.
53	34.8	○ at SÁLÚRU NADI FORD, N.W. BANK B.M. This bench-mark is cut on the top of the 8th kerb-stone on the S.W. side of the road, counting from the N.W. side of the river, 1.58 chains N.W. of milestone No. 5 from Rámabhadrápúram.	475.23	Ditto.
54	35.3	G.T.S. at SÁLÚRU HOSPITAL. This bench-mark is cut on the 3rd step from the B.M. bottom of the N. flight of steps at the W. entrance to the hospital.	512.03	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sihawa and Dokal to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
55	35.4	G.T.S. at SÁLÚRU TRAVELLERS' BUNGA- □ LOW. This bench-mark is embedded in a block of masonry, 3 feet cube, on the front or N. side of the building and to the left or E. of the flight of steps at the entrance, with its upper surface 6 inches below the level of the ground and covered with earth: it is 10 feet E. of the lowest step at the N. entrance, 19 feet 4 inches from the centre of the front door and 4 feet 8 inches away from the basement of the building. A stone embedded upright in masonry and adjoining the S.W. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its N.E. face, indicates the position of the bench-mark.	614.12	In the sunken square cut for the purpose on the stone.
56	35.7	B. O M. at SÁLÚRU POLICE LINES. This bench-mark is cut on the top of the N.W. boundary stone of the police lines. The stone has the letters M.P. engraved on its W. face.	607.93	Within the circle.
57	35.8	G.T.S. at SÁLÚRU SUB-MAGISTRATE'S ○ COURT. This bench-mark is cut on the stone pavement of the front or N. verandah, near the centre and close to the wall.	612.16	Ditto.
58	36.1	B. O M. at MILESTONE. This bench-mark is cut on the top of milestone No. 6 from Rámabhadrápúram.	610.25	Ditto.
59	36.4	G.T.S. at CULVERT. This bench-mark is cut on the top of the E. guard-stone of the ○ B.M. N. parapet of a culvert with one vent, near furlongstone No. 2 from milestone No. 6 from Rámabhadrápúram.	620.41	Ditto.
60	37.1	B. O M. at MILESTONE. This bench-mark is cut on the top of milestone No. 7 from Rámabhadrápúram.	629.38	Ditto.
61	37.7	G.T.S. at ROCK. This bench-mark is cut on ○ a large rock <i>in situ</i> , 9 feet S. of the road B.M. and level with its surface: it is at the foot of a hill and 7 chains W.S.W. of furlongstone No. 4 from milestone No. 7 from Rámabhadrápúram.	679.73	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
62	38.3	○ at CULVERT. This bench-mark is cut on the top of the E guard-stone of the B.M. S parapet of a culvert with three vents, 2.14 chains S.W. of milestone No. 8 from Rám-bhadrápúram.	586.04	Within the circle.
63	39.5	G.T.S. at CULVERT. This bench-mark is cut on the W. guard-stone of the N. parapet of a culvert with three vents, near furlongstone No. 3 from milestone No. 9 from Rám-bhadrápúram.	606.48	Ditto.
64	40.3	G.T.S. at CULVERT. This bench-mark is cut on the top of the W. guard-stone of the B.M. S. parapet of a culvert with two vents, 11.70 chains S.W. of Itikivalasa P.W.D. Inspection bungalow and 5.30 chains E of milestone No. 0 at the foot of the ghát.	630.16	Ditto.
65	40.9	G.T.S. at MILESTONE. This bench-mark is cut on the top of milestone No. 0 at the foot of the ghát near Itikivalasa.	647.13	Ditto.
66	41.1	○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N. margin of the road B.M. and level with its surface, 1.92 chains S.W. of furlongstone No. 1 from milestone No. 0 at the foot of the ghát near Itikivalasa.	695.60	Ditto.
67	41.4	○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N. margin of the road B.M. and 1 foot above it, 2.60 chains E. of furlongstone No. 4 from milestone No. 0 at the foot of the ghát near Itikivalasa.	604.76	Ditto.
68	41.7	○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N. margin of the road B.M. and 1 foot above it, 2.66 chains W. of furlongstone No. 6 from milestone No. 0 at the foot of the ghát near Itikivalasa.	601.47	Ditto.
69	41.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 1 from the foot of the ghát near Itikivalasa.	669.83	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
70	42.4	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N.W. margin of the road and 2½ feet above it, 1.39 chains S. of furlongstone No. 4 from milestone No. 1 from the foot of the ghāt near Itikivalasa. O	1184.49	Within the circle.
71	42.9	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the E. margin of the road and 1½ feet above it, 1.63 chains S.E. of milestone No. 2 from the foot of the ghāt near Itikivalasa. B.M.	1283.59	Ditto.
72	43.3	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N.W. margin of the road and 2 feet above it, 1½ chains N.E. of furlongstone No. 3 from milestone No. 2 from the foot of the ghāt near Itikivalasa. O	1406.18	Ditto.
73	43.9	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the N. margin of the road and 2½ feet above it, 29½ feet E. of milestone No. 3 from the foot of the ghāt near Itikivalasa. B.M.	1634.45	Ditto.
74	44.2	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N. margin of the road and 2 feet above it, 3 chains W. of furlongstone No. 2 from milestone No. 3 from the foot of the ghāt near Itikivalasa. O	1725.59	Ditto.
75	44.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 4 from the foot of the ghāt near Itikivalasa.	1949.77	Ditto.
76	45.3	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the S. margin of the road and 2½ feet above it, 2.40 chains W.S.W. of furlongstone No. 3 from milestone No. 4 from the foot of the ghāt near Itikivalasa. B.M.	1928.80	Ditto.
77	45.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 5 from the foot of the ghāt near Itikivalasa.	1930.77	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence vid Itikivalasa and the Jubilee ghát to Jeypore; thence through Nuanangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
78	46.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 6 from the foot of the ghát near Itikivalasa.	1893.69	Within the circle.
79	46.9	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> , 2½ feet above the roadway. B.M. it is on the S. margin of the road, and on the W. side of a mountain stream, 3½ chains S.W. of milestone No. 6 from the foot of the ghát near Itikivalasa.	1888.23	Ditto.
80	47.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 7 from the foot of the ghát near Itikivalasa.	1953.32	Ditto.
81	48.4	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the E. margin of the road. B.M. and 1½ feet above it, on the S. side of a mountain stream, 3½ chains S. of furlongstone No. 4 from milestone No. 7 from the foot of the ghát near Itikivalasa.	1049.51	Ditto.
82	48.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 8 from the foot of the ghát near Itikivalasa.	2001.91	Ditto.
83	49.8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 9 from the foot of the ghát near Itikivalasa.	2023.22	Ditto.
84	49.0	G.T.S. at SÚNKIP.W.D. REST-HOUSE. This bench mark is embedded in a block of masonry, 3 feet cube, on the front or S.E. side of the building, with its upper surface 4½ inches below the level of the ground and covered with earth; it is in line with the N.E. side of the building, 16 feet 4 inches and 56½ feet respectively from the E. and S. corners and 32 feet from the centre of the front door; a masonry wall attached to the Rest-house lies 91 feet E.S.E. of the bench-mark. A stone embedded upright in masonry and adjoining the W. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its E. face, indicates the position of the bench-mark.	2036.42	In the sunken square cut for the purpose on the stone.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
85	50.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 10 from the foot of the ghāt near Itikivalasa.	2251.49	Within the circle.
86	51.2	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the N. margin of the B.M. road and 2 feet above it, 5½ chains S.W. of furlongstone No. 2 from milestone No. 10 from the foot of the ghāt near Itikivalasa.	2239.37	Ditto.
87	51.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 11 from the foot of the ghāt near Itikivalasa.	2471.53	Ditto.
88	52.5	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the S.E. margin of the B.M. road, 3.72 chains S.W. of furlongstone No. 5 from milestone No. 11 from the foot of the ghāt near Itikivalasa.	2525.37	Ditto.
89	52.9	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the W. margin of the B.M. road, 57 feet W. of milestone No. 12 from the foot of the ghāt near Itikivalasa.	2525.09	Ditto.
90	53.8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 13 from the foot of the ghāt near Itikivalasa.	2650.88	Ditto.
91	55.0	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the N.W. margin of the B.M. road and about 1½ feet above it, 24 feet S.W. of furlongstone No. 1 from milestone No. 14 from the foot of the ghāt near Itikivalasa.	2814.92	Ditto.
92	56.3	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> in the W.N.W. road-drain, 8½ feet S. of furlongstone No. 4 from milestone No. 15 from the foot of the ghāt near Itikivalasa.	3035.31	Ditto.
93	56.6	G.T.S. at RĀYALGHADA BRIDGE. This bench-mark is cut on the N.E. guard-stone of a masonry bridge of two arches over the Rāyalghada nāla.	3057.61	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
94	56·7	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> flush with the ground, and B.M. is situated at the S.E. end of the village of Ráyalghada, 19 feet N.E. of the road, 216 chains N. of the N.E. guard-stone of Ráyalghada bridge and midway between the village and the bridge.	3056·73	Within the circle.
95	56·8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 16 from the foot of the ghát near Itikivalasa.	3077·79	Ditto.
96	57·8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 17 from the foot of the ghát near Itikivalasa.	3174·20	Ditto.
97	58·8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 18 from the foot of the ghát near Itikivalasa.	3183·41	Ditto.
98	59·4	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the N. margin of the B.M. road from Itikivalasa to Koriput midway between furlongstones Nos. 4 and 5 from milestone No. 18 from the foot of the ghát near Itikivalasa.	3344·85	Ditto.
99	59·9	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> , on the N. margin of the B.M. road, opposite milestone No. 19 from Itikivalasa.	3476·89	Ditto.
100	61·2	O at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> , on the N. margin and at the B.M. angle of a bend in the road, 25 chains N.W. of milestone No. 20 from Itikivalasa.	3179·39	Ditto.
101	61·8	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 21 from Itikivalasa.	3036·22	Ditto.
102	62·9	G.T.S. at BRIDGE. This bench-mark is cut on the top of the N.W. guard-stone of B.M. the N.E. parapet of a single-arched bridge over the Potanghi nála, 3½ chains N.W. of milestone No. 22 from Itikivalasa.	2960·62	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
103	68·6	G.T.S. at CULVERT. This bench-mark is cut B.O.M. on the W. guard-stone of the N. parapet of a culvert at the junction of the roads from Tadivalasa and Itikivalasa, 26 chains W. of Potanghi P.W.D. Rest-house and 20 chains E. of milestone No. 23 from Itikivalasa.	2977·62	Within the circle.

Branch line to POTANGHI BENCH-MARK.

$\frac{1}{103}$	0·3*	G.T.S. at POTANGHI P.W.D. REST-HOUSE. ○ This bench-mark is cut on the 4th step B.M. from the bottom of the flight of steps at the entrance to the Rest-house enclosure.	3052·80	Within the circle.
$\frac{2}{103}$	0·3*	G.T.S. at POTANGHI P.W.D. REST-HOUSE. □ This bench-mark is embedded in a block B.M. of masonry, 3 feet cube, within the walled enclosure of the Rest-house and to the right of the front or S. entrance to the building, with its upper surface 7 inches below the level of the ground and covered with earth: it is 14½ feet and 65½ feet respectively from the S.E. and S.W. corners of the building, 30 feet from the centre of the front door and 6½ feet away from the wall of the building on which the letters B.M. have been cut to indicate the position of the bench-mark.	3057·10	In the sunkon square cut for the purpose on the stone.
104	63·9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 23 from Itikivalasa.	2979·28	Within the circle.
105	64·9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 24 from Itikivalasa.	2953·04	Ditto.
106	65·6	○ at BRIDGE. This bench-mark is cut G.T.S. on the top of the N.W. guard-stone of B.M. an iron girder bridge of one 22-foot span, 25 chains E. of milestone No. 25 from Itikivalasa.	2914·97	Ditto.
107	65·9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 25 from Itikivalasa.	2930·31	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sâkûru; thence via Itikivalasa and the Jubilee ghât to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
108	66.4	G.T.S. at BRIDGE. This bench-mark is cut on the top of the E guard-stone of an B.M. iron girder bridge of one 22-foot span, 36 chains N.W. of milestone No. 25 from Itikivalasa.	2910.46	Within the circle.
109	66.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 26 from Itikivalasa.	2962.44	Ditto.
110	67.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 27 from Itikivalasa.	2932.66	Ditto.
111	68.3	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> , on the N.E. margin of the B.M. road, 18.70 chains S.E. by S of Kundili nâla bridge; it is opposite a <i>pipal</i> tree on the S. margin of the road, and 33 chains N.W. of milestone No. 27 from Itikivalasa.	2894.55	Ditto.
112	68.6	G.T.S. at BRIDGE. This bench-mark is cut B.O.M. on the top of the E.S.E. guard-stone of an iron girder bridge of one 72-foot span, over the Kundili nâla, 28 chains S.S.E. of milestone No. 28 from Itikivalasa.	2868.00	Ditto.
113	68.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 28 from Itikivalasa.	2878.88	Ditto.
114	69.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 29 from Itikivalasa.	2901.73	Ditto.
115	70.9	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 30 from Itikivalasa.	2869.02	Ditto.
116	71.4	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. guard-stone of an iron B.M. girder bridge of one 16-foot span, over the Pungar nâla, midway between milestones Nos. 30 and 31 from Itikivalasa.	2843.90	Ditto.
117	72.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 31 from Itikivalasa.	2900.16	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
118	78·0	O.B.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 32 from Itikivalasa.	2917·66	Within the circle.
119	73·4	G.T.S. at BRIDGE. This bench-mark is cut B.O.M. on the top of the S.W. guardstone of an iron girder bridge of one 40-foot span, over the Kukraghāt nāla, near the village of Doliāmba and about midway between milestones Nos. 32 and 33 from Itikivalasa.	2877·15	Ditto.
120	73·6	G.T.S. at DOLIĀMBĀ AGENCY BUNGALOW. □ This bench-mark is embedded in a block B.M. of masonry, 3½ feet cube, near the N.E. corner of the bungalow, with its upper surface 6 inches below the level of the ground and covered with earth: it is 6 feet from the N.E. corner of the building, 30 feet 5 inches from the S.E. corner of the basement and 9 feet 8 inches from the centre of the bath room door on the E. side. The letters B.M. have been cut on the E. face of the building, near the N.E. corner, to indicate the position of the bench-mark.	2962·22	In the sunken square cut for the purpose on the stone.
121	74·0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 33 from Itikivalasa.	2954·10	Within the circle.
122	75·0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 34 from Itikivalasa.	2989·71	Ditto.
123	75·4	G.T.S. at BRIDGE. This bench-mark is cut O on the top of the N.W. guardstone of B.M. an iron girder bridge of one 16-foot span, midway between milestones Nos. 34 and 35 from Itikivalasa.	2889·55	Ditto.
124	76·0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 35 from Itikivalasa.	2977·00	Ditto.
125	76·6	G.T.S. at BRIDGE. This bench-mark is cut B.O.M. on the top of the S.W. guardstone of an iron girder bridge of one 40-foot span, over the Golagad nadi, midway between milestones Nos. 35 and 36 from Itikivalasa.	2903·25	Ditto.
126	77·0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 36 from Itikivalasa.	2907·22	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sâlaru; thence to Itikivalasa and the Jubilee ghât to Jeypore; thence through Naurangapur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Sta.
127	78.0	G.T.S. at CULVERT. This bench-mark is cut on the top of the S.E. guardstone of the B.M. S.W. parapet of a culvert, 4½ chains S.E. of milestone No. 37 from Itikivalasa.	2903.07	Within the circle.
128	78.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 37 from Itikivalasa.	2910.24	Ditto.
129	79.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 38 from Itikivalasa.	2941.07	Ditto.
130	79.5	B.O.M. at FURLONGSTONE. This bench-mark is cut on the top of furlongstone No. 4 between milestones Nos. 38 and 39 from Itikivalasa.	2992.94	Ditto.
131	80.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 39 from Itikivalasa.	2932.25	Ditto.
132	80.8	○ at ROCK. This bench-mark is cut on G.T.S. a rock <i>in situ</i> , on the W. margin of the B.M. road, 15 chains S.S.E. of milestone No. 40 from Itikivalasa.	2896.78	Ditto.
133	81.0	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 40 from Itikivalasa.	2884.85	Ditto.
134	82.1	G.T.S. at BRIDGE. This bench-mark is cut on the top of the S. corner guardstone B.M. of an iron girder bridge, of three spans, over the Karandi river; it is opposite the village of Ghâtigûra and 2¼ chains N. of milestone No. 41 from Itikivalasa.	2795.69	Ditto.
135	83.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 42 from Itikivalasa.	2797.24	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
136	83.8	G.T.S. at DOMRIPUT AGENCY BUNGA- □ LOW. This bench-mark is embedded B.M. in a block of masonry, 3½ feet cube, to the left or W. of the front entrance to the building, with its upper surface 5 inches below the level of the ground and covered with earth: it is 49 feet 2 inches and 26 feet 10 inches respectively from the S. and W. pillars of the verandah and 2½ feet 5 inches from the centre of the front door. A stone embedded upright in masonry and adjoining the N.E. side of the masonry block, 1 foot 2 inches being above the surface of the ground, with the letters B.M. en- graved on its S.W. face, indicates the position of the bench-mark.	2338.52	In the sunken square cut for the purpose on the stone.
137	84.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 43 from Itikivalasa.	2352.57	Within the circle.
138	85.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 44 from Itikivalasa.	2337.48	Ditto.
139	87.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 46 from Itikivalasa.	2373.10	Ditto.
140	88.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 47 from Itikivalasa.	2365.63	Ditto.
141	88.3	○ at ROCK. This bench-mark is cut on G.T.S. a rock <i>in situ</i> , 8 feet S. of the road and B.M. near the W. extremity of a rocky hil- lock; 15 chains W. of milestone No. 47 from Itikivalasa.	2331.75	Ditto.
142	89.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 48 from Itikivalasa.	2354.32	Ditto.
143	90.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 49 from Itikivalasa.	2782.99	Ditto.
144	91.0	○ at OULVERT. This bench-mark is cut G.T.S. on the E. parapet of a culvert, 15 chains B.M. S. of milestone No. 50 from Itikivalasa.	2385.29	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
145	91.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 50 from Itikivalasa.	2892.20	Within the circle.
146	91.4	G.T.S. at KORÁPUT TRAVELLERS' BUN- GALOW. This bench-mark is em- B.M. ded in a block of masonry, 3½ feet cube, within the high walled circular enclosure of the travellers' bungalow and near the E. corner of the building, with its upper surface 6 inches below the level of the ground and covered with earth: it is 6 feet 9 inches S. of the E. corner of the building and 3½ feet 4 inches E. of the S. corner; 42½ feet from the centre of the gateway and the same distance from the turnstile leading to the outhouses; and 5 feet 3 inches from the S.E. face of the building on which the letters B.M. have been cut to indicate the position of the bench-mark.	2902.07	In the sunken square cut for the purpose on the stone.

Branch line to KORÁPUT G. T. SURVEY STATION.

<u>1</u> 146	0.4*	KORÁPUT G. T. SURVEY STATION, lat. 18° 48' 37", long. 82° 45' 28". This is a secondary station of the Biláspur Meridional Series and is situated on a low hill, 95 feet high, in the centre of the small civil station of the same name; taluk Koráput of the Jeypore state, Vizagapatam Agency: it is between the Police lines on the N. and the Agency bungalow on the S. and ¼ mile N.N.E. of the travellers' bungalow. The pillar is solid and 3 feet in diameter, and contains two marks, the upper 1 foot above the lower. <i>Note.</i> —When visited by the Levelling Detachment the station pillar was found partially destroyed and the platform of earth and stones entirely removed but the upper markstone, to which the height refers, was found intact. The pillar has since been repaired and covered with a protecting pile of stones and earth.	2991.89	On the upper mark.
147	92.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 51 from Itikivalasa.	2933.76	Within the circle.
148	92.6	G.T.S. at ROCK. This bench-mark is cut on O a rock in situ, on the top of the rise B.M. overlooking the civil station of Koráput: it is 39 feet S. of the road and 1½ chains W. of furlongstone 51½ miles from Itikivalasa.	8036.60	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through *Sihūwa* and *Dokāl* to *Dhamtari*; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
149	93.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 52 from Itikivalasa.	2971.67	Within the circle.
150	93.8	O at ROCK. This bench-mark is cut on a G.T.S. rock in <i>sitū</i> , on the N. margin of the B.M. road, 2.20 chains E.S.E. of a culvert at furlongstone 52 $\frac{1}{2}$ miles from Itikivalasa and about $\frac{1}{2}$ a mile N. of Chapara village.	2933.37	Ditto.
151	94.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 53 from Itikivalasa.	2912.55	Ditto.
152	95.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 54 from Itikivalasa.	2857.02	Ditto.
153	96.0	G.T.S. at ROCK. This bench-mark is cut on a rock in <i>sitū</i> , 10 feet W. of the road, 63 B.M. feet E. of a large rock at the N. extremity of the hill round which the road winds, and 5 chains E. of milestone No. 55 from Itikivalasa.	2953.28	Ditto.
154	96.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 55 from Itikivalasa.	2933.21	Ditto.
155	97.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 56 from Itikivalasa.	2823.35	Ditto.
156	97.5	G.T.S. at ROCK. This bench-mark is cut on a large rock in <i>sitū</i> , level with and 18 feet B.M. N. of the road, and 2 chains N.W. of furlongstone 56 $\frac{1}{2}$ miles from Itikivalasa; it is opposite the village of Bogaipodor and S. of Deoghāti nāla, which runs between the village and the bench-mark.	2704.27	Ditto.
157	98.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 57 from Itikivalasa.	2792.37	Ditto.
158	98.7	G.T.S. at ROCK. This bench-mark is cut on a low rock in <i>sitū</i> , on the N. margin of the road and level with its surface. It is close to a large mango tree and about 1.30 chains E. of a bridge which lies to the W. of the village of Deoghāti, and 34 chains E. of milestone No. 58 from Itikivalasa.	2775.75	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence viâ Itikivulasa and the Jubilee ghât to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
159	99.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 58 from Itikivulasa.	2762.70	Within the circle.
160	99.7	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> , in the road drain on the B.M. S.W. margin of the road, 3½ chains N. of milestone No. 58½ from Itikivulasa.	2723.82	Ditto.
161	101.3	G.T.S. at ROCK. This bench-mark is cut on a large precipitous rock at the foot of a B.M. cliff: it is on the W. side of the road 8 chains S.W. of milestone No. 60 from Itikivulasa.	2279.65	Ditto.
162	102.2	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 61 from Itikivulasa.	2047.15	Ditto.
163	103.2	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 62 from Itikivulasa.	2011.02	Ditto.
164	104.5	○ at ROCK, JEYPORE. This bench-mark is cut on a rock <i>in situ</i> , on the N. B.M. margin of the road from Korápat to Jeypore about 10 chains to the east of the E. entrance to the town of Jeypore and 16 chains E. of the temple of Rádhakánt.	1932.66	Ditto.
165	105.0	G.T.S. at SUB-MAGISTRATE'S KACHAHRI, JEYPORE. This bench-mark is on a B.M. bedded in a block of masonry, 3½ feet cube, with its upper surface 7 inches below the level of the ground and covered with earth; it is situated outside the walled enclosure of the kachahri, 4½ feet away from the letters B.M. cut on the wall to indicate the position of the bench-mark and 17 feet 7 inches to the left or 8 of the centre of the gateway; 43½ feet N.N.W. of a masonry wall which bears the inscription— "This well was sunk by Gouraharí Sahu, Deputy Tahsildar of Jeypore in June 1891"; and 128 feet from the centre of the front wall of the Police station which lies on the opposite side of the road and in front of the kachahri.	1038.33	In the sunken square cut for the purpose on the stone.


SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	105.4	LIEUT. ADAMS' TOMB, JEYPORE. This bench-mark is the centre of the intersection of the transverse lines of a latin cross engraved on the inscription stone of the tomb erected to the memory of Francis Adams, Lieut. 37th Madras Grenadiers. The tomb is in front of the Manager's residence 1.2 chains E. of the main road and 32 chains N. of the Police station.	1953.29	In the centre of the intersection of the transverse lines of the latin cross.
167	106.2	○ at ROCK, JEYPORE. This bench-G.T.S. mark is cut on a rock <i>in situ</i> , on the top B.M. of a low rocky hill at the W. end of the road which runs along the N. side of Jeypore tank, and 3 chains S.E. of Fletcher's bungalow.	1948.40	Within the circle.
168	107.7	G.T.S. at ROCK. This bench-mark is cut on a large rock <i>in situ</i> , in the road drain, on B.M. the E. margin of the road from Jeypore to Raigarh, 63 chains S. of the village of Umeri: it is on the top of a rise 20 feet above a wooden bridge which lies 10 chains to the north.	1945.80	Ditto.
169	113.6	○ at ROCK. This bench-mark is cut on G.T.S. a rock <i>in situ</i> on the W. margin of a B.M. turn in the road, near the centre of the top of the rise 1 mile N. of Hirdiput travellers' bungalow, and about 10 chains W. of Chāgaon.	1911.30	Ditto.
170	116.4	○ at ROCK. This bench-mark is cut on a G.T.S. large low rock <i>in situ</i> , 50 feet E. of the B.M. road from Jeypore to Raigarh and about 1 mile S.W. of Jaitgiri village: it is at the N. foot of the high ground on which stands a large top of mango and tamarind trees, 4 chains N.E. of a tank on the opposite side of the road and 2 chains N.E. of a hillock adjoining the N. side of the tank.	1912.01	Ditto.
171	118.9	G.T.S. at BORIGUMA AGENCY HUNGA- □ LOW. This bench-mark is embedded in B.M. a block of masonry, 3½ feet cube, within the enclosure of the agency bungalow and on the W. side of the building, with its upper surface 6 inches below the level of the ground and covered with earth: it is 15 feet 9 inches from the S.W. corner pillar of the verandah, 25 feet 7 inches from the N.W. corner of the building and 13 feet 6 inches from a large fig tree in contact with the W. side of the building. A stone embedded upright in masonry and adjoining the E. side of the masonry block, 3 feet 4 inches being above the surface of the ground, with the letters B.M. engraved on its W. face, indicates the position of the bench-mark.	1937.92	In the sunken square cut for the purpose on the stone.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
172	181.6	B.O.M. at NAURANGAPUR. This bench-mark is cut on the top of a stone embedded upright in the ground, 2 feet being above the surface, and is situated on the E side of the road in front of the Palace, 275 chains from the entrance to the Palace enclosure.	1862.59	Within the circle.
173	181.6	G.T.S. at NAURANGAPUR POLICE STATION. This bench-mark is embedded B.M. in a block of masonry, 3 feet cube, between the S.W. corner of the Police thána and the main road which passes in front of the building, with its upper surface 5 inches below the level of the ground and covered with earth; it is 52 feet and 10 feet respectively from the N.W. and S.W. corners of the basement of the building and 22½ feet from the centre of the doorway. A stone embedded upright in masonry and adjoining the E. side of the masonry block, 10 inches being above the surface of the ground, with the letters B.M. engraved on its W. face, indicates the position of the bench-mark.	1869.01	In the sunken square cut for the purpose on the stone.
174	185.9	 P.W.D. BENCH-MARK. This bench-mark is cut on the top of a stone 4 inches square embedded upright in masonry, 10½ inches being above the surface of the ground: it is on the W. margin of the road from Jeypore to Raigarh 75½ chains S. of Guntát nadi bridge and ¼ mile E. of Táragnon village.	1923.73	Within the circle.
175	189.7	G.T.S. at PÁPADÁHANDI AGENCY BUNGALOW. This bench-mark is embedded in a block of masonry, 3½ feet cube, within the enclosure of the agency bungalow and on the N. or front side of the building, with its upper surface 7 inches below the level of the ground and covered with earth: it is 17½ feet from the N.E. corner pillar of the verandah, 30½ feet from the centre of the front door and 13½ feet E. of the kiosk in front of the building. A stone embedded upright in masonry and adjoining the S. side of the masonry block, 1 foot being above surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark.	1894.84	In the sunken square cut for the purpose on the stone.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
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Branch line to SIRSI G. T. SURVEY STATION.

1 176	3.3*	SIRSIG.T. SURVEY STATION, lat. 16° 18' 30", long. 82° 30' 44". This is a principal station of the Bilaspur Meridional Series—observed at in 1872—and is situated on a precipitous hill 440 feet high, in the lands of the village of Sirsi; taluk Naurangapur of the Jeypore State, Vizagapatam Agency. The pillar is solid and contains two marks, the upper 2.00 feet above the lower which is engraved on the rock <i>in situ</i> . The lower mark is identical with the Central Provinces and Vizagapatam Agency Survey station of the same name. The azimuths and distances of the circumjacent villages are:—Sirsi 6° 35', mile 0.6; Mokia 68° 16', mile 0.9; the town of Papadghandi 261° 8', miles 3.2. <i>Note.</i> —The station when visited by the Levelling Detachment was found in good preservation, and protected by a closing pillar of masonry of the usual dimensions, 3½ feet high and 20 inches square at top.	2308†	The height refers to the top surface of the protecting pillar, close to the intersection of the cross lines.
176	142.2	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> , on the N.E. margin of the B.M. road from Jeypore to Raigarh, 12 chains S.E. of Kollājori nāla, 1 mile N.E. of Jāmgura village and 2 miles N.W. of Turi river bridge.	1916.01	Within the circle.
177	146.9	○ at P.W.D. BENCH-MARK. This bench-mark is cut on the top of a P.W.D. bench-mark stone 5 inches square embedded upright in masonry, 10 inches being above the surface of the ground: it is on the S.W. margin of the road from Jeypore to Raigarh, 3½ miles S.E. of Dābgaon Agency bungalow, 1 mile S.W. of Kendagura and 1 mile N.W. of Barīgura.	2008.87	Ditto.
178	150.1	G.T.S. at DĀBGAON AGENCY BUNGALOW. □ This bench-mark is embedded in a block B.M. of masonry, 3½ feet cube, within the enclosure of the Agency bungalow and on the N. or front side of the building, with its upper surface 5 inches below the level of the ground and covered with earth: it is 27½ feet from the N.E. corner pillar of the verandah, 31 feet from the N.E. corner of the building, 41 feet from the centre of the front door and 19 feet E. of the kiosk in front of the building. A stone embedded upright in masonry and adjoining the S. side of the masonry block, 1 foot 2 inches being above the surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark.	1938.27	In the sunken square cut for the purpose on the stone.

* From Bench-mark No. 176.

† Correct to the nearest foot.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sâkura; thence via Itikivalasa and the Jubilee ghât to Jeypore; thence through Naurangapur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
179	160.0	G.T.S. at BIJÂPUR AGENCY BUNGALOW. □ This bench-mark is embedded in a block B.M. of masonry, 3½ feet cube, within the enclosure of the Agency bungalow and on the N. or front side of the building, with its upper surface 6 inches below the level of the ground and covered with earth: it is 22 feet from the E. corner pillar of the front verandah, 38½ feet from the centre of the front door and 17½ feet E. of the kiosk in front of the building. A stone slab embedded upright in masonry and adjoining the S. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark.	1956.92	In the sunken square cut for the purpose on the stone.
180	164.0	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> 85 feet W. of the road from B.M. Jeypore to Raigarh and 16 feet from the E. extremity of the base of a low rocky hill ¼ mile N.W. of Bhaskêl nadi bridge and about 23 chains S.E. of Bidrigura village.	1928.08	Within the circle.
181	170.4	○ at ROCK. This bench-mark is cut on the top of a low rock <i>in situ</i> on the S.W. B.M. margin of the road from Jeypore to Raigarh, 67 chains S.E. of Umarkot Agency bungalow and opposite the village of Golibâna.	1991.94	Ditto.
182	171.2	G.T.S. at UMARKOT AGENCY BUNGALOW. This bench-mark is embedded in B.M. a block of masonry, 3½ feet cube, within the enclosure of the Agency bungalow and on the front or S.W. side of the building, with its upper surface 8 inches below the level of the ground and covered with earth: it is 24 feet 9 inches and 59 feet 8 inches respectively from the W. and S. corner pillars of the verandah of the building, and 31½ feet from the centre of the front door. A stone embedded upright in masonry and adjoining the N.E. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its S.W. face, indicates the position of the bench-mark.	1992.15	In the sunken square cut for the purpose on the stone.

Branch line to HIRÂPUR G. T. SURVEY STATION.

1 182	5.8*	○ at ROCK. This bench-mark is cut on G.T.S. one of a group of rocks <i>in situ</i> (the only B.M. group in the vicinity) on the site of the deserted village of Tilondi, about ¼ mile W. of the present village of that name.	2120.87	Within the circle.
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* From Bench-mark No. 189.

SECTION—VIZIANAGRAM to RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
$\frac{2}{182}$	8.1*	G.T.S. at ROCK. This bench-mark is cut on an extensive low rock, lying east and west, about $\frac{1}{4}$ mile W. of the village of Nākjori: it is 14 feet from the N.W. extremity of the rock which lies on the E. margin of the cart-track from Tilondi to Hīrāpur hill.	2194.16	Within the circle.
$\frac{3}{182}$	9.3*	HĪRĀPUR G. T. SURVEY STATION, lat. $19^{\circ} 36' 15''$, long. $82^{\circ} 9' 34''$. This is a principal station of the Bilāspur Meridional Series—observed at in 1873—and is situated on one of the highest peaks of the Parāgarh range, called Hīrāpur-Sirsi dongri; tāluk Naurangapur of the Jeypore State, Vizagapatam Agency. The pillar is solid and contains two marks, the upper 2.88 feet above the lower which is engraved on the rock <i>in situ</i> . The lower mark is identical with the Topographical station "Bataondi" of the Central Provinces and Vizagapatam Agency Survey. The bearings and estimated distances of the circumjacent villages are:—Hīrāpur N.N.W., $2\frac{1}{2}$ miles; Umarkot N.E., $7\frac{1}{2}$ miles; Kumari E.N.E., 5 miles and Silati W. by S, $8\frac{1}{2}$ miles. <i>Note.</i> —The station when visited by the Levelling Detachment was found in good preservation, and protected by a closing pillar of masonry of the usual dimensions, $8\frac{1}{2}$ feet high and 20 inches square at top.	8052†	The height refers to the intersection of the cross lines on the top of the protecting pillar.
183	173.2	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> , $12\frac{1}{2}$ feet E. of the S.E. corner pile of the wooden bridge over the Garinjori nāla, and 2 miles N.W. of Umarkot Agency bungalow.	2015.36	Within the circle.
184	173.9	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the E. side of the road from Umarkot to Raigarh, 10 feet from the road drain and 2 feet 8 inches above the surface of the road: it is near the site of the deserted village of Buthkibera, about $2\frac{1}{2}$ miles N.W. of Umarkot and 71 feet N. of a large rock, 5 feet high, in the centre of the road.	2041.46	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sâkîru; thence via Itikivalasa and the Jubilee ghât to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
185	176.5	<p>○ at ROCK. This bench-mark is cut on a large low rock <i>in situ</i>, 2 miles 33 chains S.S.E. of Bera Agency bungalow: it is 6 feet from the E. extremity of the rock which is 15 feet long 9 feet broad (at its greatest width) and 1½ feet above the level of the road and lies across the W. road-drain cutting into and narrowing the width of the road at that spot.</p>	2068.00	Within the circle.
186	177.3	<p>○ at ROCK. This bench-mark is cut on a low rock <i>in situ</i> in the drain on the W. margin of the road from Umar Kot to Raigarh, 1½ miles S.S.E. of Bera Agency bungalow.</p>	2022.15	Ditto.
187	178.8	<p>G.T.S. at BERA AGENCY BUNGALOW. □ This bench-mark is embedded in a block of masonry, 3 feet cube, within the bungalow enclosure and on the front or W. side of the building, with its upper surface 4½ inches below the level of the ground and covered with earth: it is 29½ feet and 68½ feet respectively from the N. and S. corner posts of the front verandah and 25 feet from the centre of the front door. A stone embedded upright in masonry and adjoining the E. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its W. face, indicates the position of the bench-mark.</p>	2014.85	In the sunken square cut for the purpose on the stone.
188	185.3	<p>○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the E. margin of the road from Umar Kot to Raigarh, 16 chains S.E. by S. of Kumlî wooden bridge.</p>	2138.89	Within the circle.
189	188.1	<p>○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the W. margin of the road, ¼ mile S.E. by E. of the Agency bungalow at Raigarh.</p>	2106.70	Ditto.
190	188.5	<p>G.T.S. at RAIGARH. This bench-mark is cut on a laterite rock <i>in situ</i> in front of the Agency bungalow: it is between the bungalow and the main road.</p>	2150.82	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokdl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
191	188.6	G.T.S. at RAIGARH POLICE OUTPOST. □ This bench-mark is embedded in a block B.M. of masonry, 3 feet cube, within the enclosure of the thāna and 5.26 chains N.W. of the Agency bungalow, with its upper surface 4 inches below the level of the ground and covered with earth: it is 17 feet 4 inches and 54 feet 4 inches respectively from the S.E. and N.E. pillars of the verandah of the thāna and 27 feet from the centre of the front entrance to the building. A stone embedded upright in masonry and adjoining the W. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its E. face, indicates the position of the bench-mark.	2151.10	In the sunken square cut for the purpose on the stone.

Branch line to HÁTHBENA G. T. SURVEY STATION.

$\frac{1}{191}$	4.5*	HÁTHBENA G. T. SURVEY STATION, lat. $19^{\circ} 51' 42''$, long. $82^{\circ} 3' 53''$. This is a principal station of the Bilāspur Meridional Series—observed at in 1873—and is situated on a long, high hill lying east and west, on the boundary between the villages of Kutgaon and Háthbena; taluk Naurangapur of the Jeypore State, Vizagapatam Agency. The pillar is solid and contains two marks, the upper 8.00 feet above the lower which is engraved on the rock <i>in situ</i> . The lower mark is identical with Colonel Saxton's Topographical station of the Central Provinces and Vizagapatam Agency Survey. The bearings and estimated distances of the circumjacent villages are:—Kutgaon E., 2.25 miles; the town of Raigarh N.E., 8.75 miles; Bersári S.E., about 3 miles and Háthbena village N.W., 1.5 miles. The boundary between the Jeypore and Bastar States passes about 4 or 5 miles to the W. of the hill. <i>Note.</i> —The station when visited by the Levelling Detachment was found in good preservation, and protected by a closing pillar of masonry of the usual dimensions, $3\frac{1}{2}$ feet high and 20 inches square at top.	2603.21	The height refers to the intersection of the cross lines on the top of the protecting pillar.
192	198.1	G.T.S. at ROCK. This bench-mark is cut on the N.W. end of a rock <i>in situ</i> , level with B.M. the road, and situated in the drain on the S.W. margin of the road from Raigarh to Jorinda and about $1\frac{1}{4}$ miles E. of Bávi village; it is the only rock on this portion of the road.	2195.33	Within the circle.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sālūru; thence via Itikivalasa and the Jubilee ghāt to Jeypore; thence through Naurungapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
193	195.9	G.T.S. at JORINGA. This bench-mark is embedded in a block of masonry, 3 feet B.M. cube, on the W. side of a low hill called 'Kot' and about 10 chains E of Joringa village, with its upper surface 2½ inches below the level of the ground and covered with earth: it is on the N. side of an open thatched shed containing a vermilion painted stone dedicated to the Goddess Hingalāj mātā, 14 feet and 18½ feet respectively from the N.E. and N.W. corner posts of the shed; 6½ chains S. of the main road from Raigarh and 13 chains S. of the cart-track from the village to the main road. A stone embedded upright in masonry and adjoining the S. side of the masonry block, 10 inches being above the surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark.	2158.02	In the sunken square cut for the purpose on the stone.
194	206.6	G.T.S. at GOTKAL ROCK. This bench-mark is cut on the top of a large rock <i>in situ</i> 5½ feet above ground level: it is on the E. side of the cart-track to Borai and 12 chains W. of the village of Gotkal.	2080.20	Within the circle.
195	207.9	G.T.S. at BORAI. This bench-mark is embedded in a block of masonry, 3½ feet cube, with its upper surface a few inches below the level of the ground and covered with earth: it is under a large <i>bar</i> tree that marks the site of the deserted village of Borai, 74 feet S. of the stem of the tree, 2½ chains S.E. of the junction of the cart-tracks from Sāhāva, Jeypore and Bastar, 10 chains N. of Dhanteshwari-devi temple, 72½ feet S. of Sattikimandi, about 7 chains N.E. of Borai <i>Hant</i> and ¼ mile S.E. of the village of Borai. A stone embedded upright in masonry and adjoining the N. side of the masonry block, 1½ feet being above the surface of the ground, with the letters B.M. engraved on its S. face, indicates the position of the bench-mark.	2087.07	In the sunken square cut for the purpose on the stone.
196	210.1	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the E. margin of the cart-track from Borai to Sāhāva, 1½ miles N.E. of the former village: it is the southernmost one of a group of rocks on the top of a swell of ground rising 160 feet in a distance of 2½ miles from Kālapāni nadi.	2023.44	Within the circle.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sihāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
197	212·4	G.T.S. at KĀLAPĀNI NADI. This bench-mark is cut on the top, and at the N. B.M. end, of a large high rock in the centre of the river bed: it is 39 feet W. of a <i>bar</i> tree on the E bank of the nadi and 43 feet S. of the cart-track from Borai to Sihāwa.	1860·64	Within the circle.
198	214·8	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the N.W. margin of the B.M. cart-track from Borai to Sihāwa: it is within the bend of the Chita nadi, 1 mile 68 chains S.W. of the N. ford and 53 chains N.E. of the S. ford and about 1 mile S.W. of the junction of the cart tracks from Sihāwa and Birgudi to Borai. The southern portion of the river at the S. ford is also called Ardara nadi.	1811·18	Ditto.
199	224·5	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> at the S.E. end of a group of B.M. rocks situated in open cultivated ground: it is 2½ chains N.E. of the cart-track from Gatūla to Sihāwa and ¼ a mile N.W. of the former village	1462·16	Ditto.
200	226·9	G.T.S. at SĪHĀWA POLICE OUTPOST. This bench-mark is embedded in a block of B.M. masonry, 3½ feet cube, on the front or S. side of the thāna, 6½ feet away from the wall, with its upper surface 3 inches below the level of the ground and covered with earth: it is 35½ feet and 24½ feet respectively from the S.W. and S.E. corners of the thāna and 50 feet N.W. of the bench-mark (G.T.S.) (○ B.M.) cut on the W. flight of steps, of the village well. The thāna is situated at the foot of Singari (<i>Shringar Rishi</i>) Rock, and on the S. face of the building the letters B.M. have been cut to indicate the position of the bench-mark.	1424·68	In the sunken square cut for the purpose on the stone.
201	226·9	G.T.S. at SĪHĀWA WELL. This bench-mark is cut on the S. end of the first step of the W. flight: it is 0·78 chain S.E. of the Police out-post.	1425·91	Within the circle.
202	229·1	G.T.S. at ROCK.* This bench-mark is cut on a rock <i>in situ</i> 10 feet N. of the N. margin of the cart-track from Sihāwa to Gatūla: it is between the village of Sēmra and Gaurepāt tank, about 8 chains E. of the former and 4 chains W. of the latter.	1427·01	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sáláru; thence to Itikwalasa and the Jublee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling
203	230.5	G.T.S. at ROCK. This bench mark is cut on a rock <i>in situ</i> on the W. side of the cart-track from Síláru to Gatásili. It is between the cart track and a conspicuous cluster of rocks, 43 feet from the former and 39 feet from the highest rock of the latter and is situated on the boundary of the village of Birgudi of the Bastar State, about $\frac{1}{2}$ mile S.W. of Kutár village. A larger group of rocks lies 3 chains N.E. of the bench-mark. O B.M.	1421.86	Within the circle.
204	236.3	G.T.S. at BAR-KÁ-PARÁO. This bench-mark is cut on a rock <i>in situ</i> $1\frac{1}{2}$ chains W. of the cart-track from Síláru to Gatásili and 3 chains S.W. of Gotágon tank. O B.M.	1438.74	Ditto.
205	280.6	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> , 2 feet high, on the E. margin of the cart track from Síláru to Gatásili. It is 38 chains S. of the Áina nadi and about 1 mile S.E. of Gatásili. O B.M.	1825.09	Ditto.
206	240.6	G.T.S. at GATÁSILI. This bench-mark is embedded in a block of masonry, $3\frac{1}{2}$ feet B.M. cube, with its upper surface 3 inches below the level of the ground and covered with earth. It is $3\frac{1}{2}$ chains E. of the village; 1.82 chains S. of a large tamarind tree that marks the site of the 'Haut', 35 feet N.E. of the cart-track to Síláru; and 38 $\frac{1}{2}$ feet W. of, and in line with, a row of 7 mango trees of the type situated $3\frac{1}{2}$ chains E. of the village. A stone slab fixed upright in masonry and adjoining the N. side of the masonry block, 1 foot being above the surface of the ground, with the letters B.M. engraved on its S. face, indicates the position of the bench-mark.	1340.67	In the sunken square cut for the purpose on the stone.
207	244.2	G.T.S. at ROCK. This bench-mark is cut on a spherical rock <i>in situ</i> , the central and highest of a group on the S.W. margin of the cart track from Gatásili to Dokál. It is 3 miles S.E. of the Sendor nadi and 2 feet above the level of the ground. O B.M.	1314.77	Within the circle.
208	245.4	G.T.S. at ROCK. This bench-mark is cut on a large flat rock <i>in situ</i> 2 miles S.E. of the Sendor nadi. It is 22 feet E. of the cart-track from Gatásili to Dokál and 2 feet above it. O B.M.	1307.25	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
209	247.3	○ at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the S. bank of the Sendor nadi and on the E. margin of the cart-track from Gatāsili to Dokāl. B.M.	1235.63	Within the circle.
210	249.0	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the N. margin of the cart-track; it is $1\frac{1}{2}$ miles S. of Dokāl and $1\frac{1}{2}$ chains W. of the N. end of the ghāt or road-cutting which descends to the Sendor nadi, about $1\frac{1}{2}$ miles distant. ○ B.M.	1350.34	Ditto.
211	250.6	G.T.S. at DOKĀL. This bench-mark is embedded in a block of masonry, 34 feet cube, on the N. side of the temple of Jagannāth, 5 feet 10 inches away from the wall, with its upper surface $6\frac{1}{2}$ inches below the level of the ground and covered with earth; it is within the enclosure of the temples of Jagannāth and Mahadeo (which are situated on the W. bank of the tank), 84 feet and 9 feet respectively from S.W. and N.E. corners of Jagannāth's temple and 84 feet from the centre of the doorway of Mahadeo's temple. The letters B.M. have been cut on the N. face of Jagannāth's temple to indicate the position of the bench-mark. □ B.M.	1320.10	In the sunken square cut for the purpose on the stone.
212	251.6	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the S. margin of the cart-track from Dokāl to Kūmra, 10 chains W. of a nāla, and 1 mile N.W. of Dokāl. ○ B.M.	1316.19	Within the circle.
213	251.2	G.T.S. at ROCK. This bench-mark is cut on a rock <i>in situ</i> on the top of the high ground in the lands of Kharada village; it is situated at the N.W. end of the loop in the cart-track where the track along the top of the rise is divided into two branches. ○ B.M.	1267.26	Ditto.
214	258.3	G.T.S. at BANAGOED VILLAGE. This bench-mark is cut on a rock <i>in situ</i> about 6 chains E. of Banagoed village; it is on the S. side of the cart track to Dhamtari and on the W. bank of Kūmri nāla. ○ B.M.	1076.09	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
215	260.3	G.T.S. at KUKREL. This bench-mark is embedded in a block of masonry, 3 feet B.M. cube, in the Gond burial ground and 'Hant', with its upper surface 4 inches below the level of the ground and covered with earth. It is 12 chains W. of the village and 3½ feet S. of the junction of the cart track from the village with the main cart-track to Dhamtari. A stone embedded upright in masonry and adjoining the S. side of the masonry block, 1½ feet being above the surface of the ground, with the letters B.M. engraved on its N. face, indicates the position of the bench-mark.	1085.31	In the sunken square cut for the purpose on the stone.
216	261.0	○ at KUKREL BOUNDARY STONE. G.T.S. This bench-mark is cut on the top of a B.M. stone fixed upright in the ground close to a pile of stones on the S. margin of the cart-track to Dhamtari and marks the boundary of Kukrel village from which it is distant about 1 mile W.N.W.	1109.43	Within the circle.
217	262.3	○ at ROCK. This bench-mark is cut on a G.T.S. rock <i>in situ</i> on the S. margin of a nála B.M. which crosses the cart-track to Dhamtari about ¼ a mile S.W. of Sfidí. It is 2½ feet above the level of the ground and 80 feet W. of a pile of stones marking the boundary of Sfidí village.	1077.78	Ditto.
218	263.0	○ at BHOINA BOUNDARY STONE. This G.T.S. bench-mark is cut on the top of a stone B.M. slab fixed upright in the ground, 3 feet 8 inches being above the surface. It is situated 1 chain W. of the cart-track from Sfidí to Dhamtari, between a low masonry pillar and a pile of stones, 2½ feet E. of the former and 20 feet W. of the latter, and marks the boundary of Bhoína village from which it is distant about 1½ miles S.E.	1109.35	Ditto.
219	265.7	G.T.S. at ACHOTA VILLAGE. This bench-mark is cut on stone slab 3 feet x 2 feet B.M. dedicated to Saliáda Deo. It is situated midway between the two hamlets of Achota and on the E. margin of the cart track to Dhamtari 45 feet from a large tamarind tree on the W. margin of the cart-track.	1060.82	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sīhāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
220	267·8	G.T.S. at MĀTA TANK, DHAMTARI. This bench-mark is cut on the W. corner of the B.M. basement of Mahādeo's temple, situated on the N. embankment of the tank.	1054·56	Within the circle.
221	268·0	B. ↑ M. at BILAI-MĀTA TEMPLE, DHAMTARI. This bench-mark is cut on the top of a stone slab embedded upright in the ground 8 inches being above the surface: it is situated 166½ feet S. of the temple and 4½ feet E. of the cart-track from Achota ferry. This is a P.W.D. bench-mark to which the letters B.M. have been added.	1051·53	On the head of the arrow.
222	268·5	G.T.S. at TEHSĪLKACHAHRI, DHAMTARI. This bench-mark is cut on the top of the stone coping of the old rain-gauge pillar in the centre of the Kachahri enclosure.	1071·94	Within the circle.
223	269·1	B. ○ M. at MILESTONE. This bench-mark is cut on the top of milestone No. 48 from Raipur.	1047·59	Ditto.
224	269·1	G.T.S. at DHAMTARI TRAVELLERS' BUN- GALOW. This bench-mark is embedded in a block of masonry, 8 feet cube, on the E. side of the building, with its upper surface 6 inches below the level of the ground and covered with earth: it is 19 feet 9 inches from the S.E. corner of the building, 19 feet 8 inches from the N.E. corner of the verandah, and 6 feet away from the wall on which the letters B.M. have been cut below the window to indicate the position of the bench-mark.	1045·29	In the sunken square cut for the purpose on the stone.
225	269·1	G.T.S. at DHAMTARI TRAVELLERS' BUN- GALOW. This bench-mark is cut on the E. corner of the lowest step of the front entrance.	1046·32	Within the circle.
226	269·2	G.T.S. at MAHĀDEO'S TEMPLE, DHAMTARI. This bench-mark is cut on the S.E. corner of the basement of the temple which is situated on the W. embankment of Makai-band tank: a P.W.D. bench-mark (□ △) cut on the S.W. corner of the basement is 0·212 foot higher. The temple is the northern one of two near the S.W. corner of the tank.	1050·45	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálkrú; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
227	270·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No 47 from Raipur.	1047·80	Within the circle.
228	271·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No. 46 from Raipur.	1042·88	Ditto.
229	272·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No. 45 from Raipur.	1041·05	Ditto.
230	273·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No. 44 from Raipur.	1047·00	Ditto.
231	274·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 43 from Raipur.	1052·25	Ditto.
232	275·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 42 from Raipur.	1047·21	Ditto.
233	276·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 41 from Raipur.	1043·26	Ditto.
234	277·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 40 from Raipur.	1037·97	Ditto.
235	278·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 39 from Raipur.	1038·17	Ditto.
236	279·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No 38 from Raipur.	1030·26	Ditto.
237	280·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No. 37 from Raipur.	1026·52	Ditto.
238	281·1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 36 from Raipur.	1032·92	Ditto.
239	282·1	B.O.M. at MILESTONE This bench-mark is cut on the top of milestone No. 35 from Raipur.	1032·17	Ditto.

SECTION—VIZIANAGRAM to RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāva and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
240	283.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 84 from Raipur.	1030.01	Within the circle.

Branch line to KURŪD.

$\frac{1}{240}$	1.2*	G.T.S. at KURŪD. This bench-mark is embedded in a block of masonry, 3 feet square and $3\frac{1}{2}$ feet deep, on the N. side of Rāmachandra's Temple (<i>Rām Mandir</i>), with its upper surface 6 inches below the level of the ground and covered with earth: it is $8\frac{1}{2}$ feet and $6\frac{1}{2}$ feet respectively from the N.E. and N.W. corners of the <i>Jag-mohan Mandap</i> , 4 feet away from the N. face of the <i>Mandap</i> —on which the letters B.M. have been cut to indicate the position of the bench-mark—and 12 feet 10 inches from the centre of the basement of the temple in which the image of the god is located.	1007.65	In the sunken square cut for the purpose on the stone.
241	284.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 38 from Raipur.	1024.82	Within the circle.
242	285.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 32 from Raipur.	1029.45	Ditto.
243	286.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 31 from Raipur.	1036.86	Ditto.
244	287.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 30 from Raipur.	1029.97	Ditto.
245	288.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 29 from Raipur.	1033.64	Ditto.
246	289.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 28 from Raipur.	1036.63	Ditto.
247	290.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 27 from Raipur.	1028.45	Ditto.
248	291.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 26 from Raipur.	1016.54	Ditto.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence vid Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
249	292.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 25 from Raipur.	1028.77	Within the circle.
250	293.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 24 from Raipur.	1008.97	Ditto.
251	294.0	G.T.S. at DARBA P.W.D. INSPECTION HUT □ This bench-mark is embedded in a block B.M. of masonry, 4 feet cube, with its upper surface a few inches below the level of the ground and covered with earth. It is 2 19 chains S. of the centre of the S.W. face of the hut, 4 37 chains S.E. of milestone No. 23 from Raipur, about 10 chains N.W. of Darba village, 45 feet from the main road and 7 feet 8 inches S.E. by 8. of the letters B.M. cut on a stone embedded in the parapet of a brick masonry well to indicate the position of the bench-mark.	1012.04	In the sunken square cut for the purpose on the stone.
252	294.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 23 from Raipur.	1014.49	Within the circle.
253	295.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 22 from Raipur.	1018.03	Ditto.
254	296.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 21 from Raipur.	1018.49	Ditto.
255	297.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 20 from Raipur.	1028.56	Ditto.
256	298.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 19 from Raipur.	1040.66	Ditto.
257	298.8	G.T.S. at ABHANPUR POLICE THANA. □ This bench-mark is embedded in a block B.M. of masonry, 4 feet cube, on the S. side and near the S.E. corner of the building, with its upper surface a few inches below the level of the ground and covered with earth: it is 4 feet 7 inches and 38 feet 4 inches respectively from the S.E. and S.W. corners of the building, and 4 feet 2 inches away from the S. face of the thana on which the letters B.M. have been cut to indicate the position of the bench-mark. The thana is situated between the village and the main road, on the top of a swell of ground rising 9 feet above the road-way.	1065.70	In the sunken square cut for the purpose on the stone.

SECTION—VIZIANAGRAM to RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sáláu; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
269	808.5	B.O.M. at MĀNA VILLAGE. This bench-mark is cut on the coping of the parapet of a well. It is on the N. side of the main road from Dhamtari to Raipur and 3 chains S. of the village school.	1007.95	Within the circle.
270	809.1	B.O.M. at MILESTONE. This bench mark is cut on the top of milestone No. 6 from Raipur.	993.00	Ditto.
271	810.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 7 from Raipur.	995.26	Ditto.
272	811.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 6 from Raipur.	974.38	Ditto.
273	812.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 5 from Raipur.	974.67	Ditto.
274	813.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 4 from Raipur.	964.18	Ditto.
275	814.1	B.O.M. at MILESTONE. This bench-mark is cut on the top of milestone No. 3 from Raipur.	960.10	Ditto.
276*	815.1	G.T.S. at St JOHN'S CHURCH, RAIPUR. O B.M. This bench-mark is cut on the stone sill of the window on the S. side of the vestry. <i>Note.</i> —This bench-mark is identical with No. $\frac{11}{222}$ of Section Nagpur to Bilaspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition 1896.</i>	981.39	Ditto.
277*	315.1	St JOHN'S CHURCH, RAIPUR. The N.E. corner of the step at the entrance to the store room on the E. side of the church. <i>Note.</i> —This bench-mark is identical with No. $\frac{10}{222}$ of Section Nagpur to Bilaspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition 1896.</i>	977.81	On the N.E. corner of the step.

* Connected by Spirit-levelling in 1891-92 only.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sihawa and Dokul to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
278	316.0	G.T.S. at OULVERT, RAIPUR. This bench-mark is cut on the stone coping of the E. B.M. parapet of a culvert in front of the Government High School and between it and the reservoir.	997.94	Within the circle.
279	315.9	G.T.S. at RAIPUR CLUB. This bench-mark is cut on the S.W. corner of the stone B.M. step at the W. entrance to the club. <i>Note.</i> —This bench-mark is identical with No. ⁹ / ₂₂₂ of Section Nagpur to Bilaspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	993.74	Ditto.
280	316.2	G.T.S. at RAIPUR MUSEUM. This bench-mark is cut on the S. end of the second B.M. step from the bottom at the W. entrance to the Museum, near the S. stone pillar. <i>Note.</i> —This bench-mark is identical with No. ⁸ / ₂₂₃ of Section Nagpur to Bilaspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	982.83	Ditto.
281*	316.4	RAIPUR G. T. SURVEY STATION, lat. $21^{\circ}14'43''$, long. $81^{\circ}41'12''$. This is a secondary station of the Bilaspur Meridional Series, and is situated on a central part of the roof of the Government Court House (or Zilla Kachahri), $25\frac{1}{2}$ feet above the ground. A circle and dot mark, cut on the paka roof and covered over with a square paka pillar of 1 foot side and 6 inches high, indicates the station. It is identical with No. ⁷ / ₂₂₂ of Section Nagpur to Bilaspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i> <i>Note.</i> —When visited by the Levelling Party, the station mark on the roof was found intact, but the square paka pillar covering it had been removed. The mark on the roof—to which the height in the next column refers—was found by direct measurement to be 26.905 feet above a peg in the ground, on which the levelling staff rested.	998†	This height refers to the circle and dot mark on the roof.

* Connected by Spirit-levelling in 1891-92 only.

† Correct to the nearest foot.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence via Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur,

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
282	316.4	G.T.S. at VICTORIA TOWN HALL, RAIPUR. ○ This bench-mark is cut on the B.M. W. end of the second step from the bottom, of the central flight of steps on the S. side of the building. <i>Note</i> —This bench-mark is identical with No. $\frac{6}{222}$ of Section Nágpur to Biláspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	974.05	Within the circle.
283*	316.5	G.T.S. at ZILLA KACHAHRI, RAIPUR. ○ This bench-mark is cut on the second B.M. step from the bottom, at the main entrance on the W side of the building. <i>Note</i> .—This bench-mark is identical with No. $\frac{5}{222}$ of Section Nágpur to Biláspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	972.32	Ditto.
284*	316.8	G.T.S. at BOUNDARY PILLAR, RAIPUR. ○ This bench-mark is cut on the top of a B.M. boundary pillar about 200 feet S. of the S.W. corner of the Central Jail. <i>Note</i> —This bench-mark is identical with No. $\frac{4}{222}$ of Section Nágpur to Biláspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	970.10	Ditto.
285*	316.9	G.T.S. at CENTRAL JAIL, RAIPUR. This bench-mark is cut on the stone pavement of the main gateway, 5 feet N. of the S.W. corner. <i>Note</i> .—This bench-mark is identical with No. $\frac{3}{222}$ of Section Nágpur to Biláspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	967.58	Ditto.

* Connected by Spirit-levelling in 1891-92 only.

SECTION—VIZIANAGRAM TO RAIPUR.

Umarkot and Borai, and along the cart-track through Sthāwa and Dokāl to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
286	317.0	G.T.S. at METEOROLOGICAL OBSERVATORY, RAIPUR. This bench-mark is B.M. cut on the masonry base of the wooden ladder leading up to the Anemometer of the Central Jail Meteorological Observatory 67½ chains from the Railway Station. <i>Note.</i> —This bench-mark is identical with No. $\frac{2}{229}$ of Section Nāgpur to Bilāspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	960.09	Within the circle.
287	317.6	G.T.S. at CULVERT, RAIPUR. This bench-mark is cut on the N. parapet of a B.M. culvert of four vents, on the high road from the Railway Station to the Cantonment, 17½ chains E. of the Railway Station. <i>Note.</i> —This bench-mark is identical with No. $\frac{1}{229}$ of Section Nāgpur to Bilāspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	944.42	Ditto.
288*	317.8	RAIL OPPOSITE BOOKING OFFICE at RAIPUR RAILWAY STATION. <i>Note.</i> —This bench-mark is identical with No. 220 of Section Nāgpur to Bilāspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	956.97	On the top of the rail.
289	317.8	G.T.S. at RAIPUR RAILWAY STATION. O This bench-mark is cut on the coping of B.M. the platform opposite the Booking Office. <i>Note.</i> —This bench-mark is identical with No. 221 of Section Nāgpur to Bilāspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i>	958.80	Within the circle.

* Connected by Spirit-levelling in 1891-92 only.

SECTION—VIZIANAGRAM TO RAIPUR.

Spirit Levelling from Vizianagram along the main road to Sálúru; thence to Itikivalasa and the Jubilee ghát to Jeypore; thence through Naurangapur, Umarnkot and Borai, and along the cart-track through Sínháwa and Dokál to Dhamtari; and thence along the new main road to Raipur.

No. in Section.	Approximate Distance in Miles from Vizianagram.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
290	317.8	<p>G.T.S. at RAIPUR RAILWAY STATION.</p> <p>B.M. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N. side of the station, between the windows of the telegraph office and store room, 1 foot 2 inches away from the wall, with its upper surface 9 inches below the level of the platform: it is 13 feet 8 inches from the N.E. corner and 16 feet 4 inches from the N.W. corner of the station building, 47 feet 2 inches from the edge of the platform, and 30 feet 2 inches from the Home Somaphoro. The letters B.M. have been cut on the N. face of the station building to indicate the position of the bench-mark.</p> <p><i>Note.</i>—This bench-mark is identical with No. 222 of Section Nagpur to Biláspur of <i>Spirit-Levelled Heights No. 7 Bombay Presidency, &c. Seasons 1890-91-92. Revised Edition, 1896.</i></p>	958.77	In the sunken square cut for the purpose on the stone.

POONA:
November 1897. }

S. G. BURRARD, MAJOR, R.E.,
In charge Tidal and Levelling Operations.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
1	0.0	G.T.S. at RAIPUR RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N. side of the station, between the windows of the telegraph office and store room, 1 foot 2 inches away from the wall, with its upper surface 9 inches below the level of the platform: it is 13 feet 8 inches from the N.E. corner and 16 feet 4 inches from the N.W. corner of the station building, 47 feet 2 inches from the edge of the platform, and 30 feet 2 inches from the Homo Somaphore. The letters B.M. have been cut on the N. face of the station building to indicate the position of the bench-mark.	958.77	In the sunken square cut for the purpose on the stone.
2	0.8	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the S. abutment of a bridge of one span, near telegraph post No. $\frac{188}{10}$, and 32.7 chains N. of milepost No. 188 from Nágpur.	958.83	Within the circle.
3	2.2	G.T.S. at CULVERT. This bench-mark is cut on the coping of the W. parapet of a culvert of two vents, near telegraph post No. $\frac{189}{16}$, and 23½ chains S. of milepost No. 190 from Nágpur.	922.87	Ditto.
4	3.4	G.T.S. at CULVERT. This bench-mark is cut on the centre of the N.W. parapet of a single-arched culvert near telegraph post No. $\frac{190}{24}$, and 1.75 chains S.W. of milepost No. 191 from Nágpur.	898.46	Ditto.
5	4.5	G.T.S. at SOKRA BRIDGE. This bench-mark is cut on the N.W. cap of the S.W. abutment of a girder bridge of three 40-foot spans, near telegraph post No. $\frac{192}{2}$, and 4.4 chains N.E. of milepost No. 192 from Nágpur.	897.70	Ditto.
6	6.0	G.T.S. at CULVERT. This bench-mark is cut on the coping of the S.E. parapet, over the first arch from the N.E. side, of a culvert of five arches, near telegraph post No. $\frac{193}{13}$, and midway between mileposts Nos. 193 and 194 from Nágpur.	914.18	Ditto.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
7	7.0	G.T.S. at CULVERT. This bench-mark is cut on the N.W. parapet of a single arched culvert near telegraph post No. $\frac{194}{18}$, and 85.6 chains S.W. of Mándhar Railway Station. O B.M.	924.44	Within the circle.
8	7.5	RAIL opposite BOOKING OFFICE at MÁNDHAR RAILWAY STATION.	927.88	On the top of the rail.
9	7.5	G.T.S. at MÁNDHAR RAILWAY STATION. This bench mark is cut on the coping of the platform opposite the Booking Office. O B.M.	929.80	Within the circle.
10	7.5	G.T.S. at MÁNDHAR RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, in the station platform at the N.E. side of the station, 1 foot 7 inches away from the wall, with its upper surface 6 inches below the level of the platform; it is 10 feet 8 inches from the E. corner and 8 feet 2 inches from the N. corner of the station building, 41 feet from the edge of the platform, and 21 feet 10 inches from the Home Semaphore. The letters B.M. have been cut on the N.E. face of the building to indicate the position of the bench-mark. □	929.34	In the sunken square cut for the purpose on the stone.
11	8.4	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. parapet of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{195}{21}$, and 5½ chains S.W. of milepost No. 190 from Nágpur. O B.M.	911.31	Within the circle.
12	10.2	G.T.S. at CULVERT. This bench-mark is cut on the S.S.W. end of the W.N.W. parapet of a single arched culvert near telegraph post No. $\frac{197}{18}$, and 22 chains S.S.W. of milepost No. 198 from Nágpur. O B.M.	895.89	Ditto.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
13	11.3	G.T.S. at KULHAN BRIDGE. This bench-mark is cut on the coping of the W. cut-water of the S. abutment of a girder bridge of eight 40-foot spans, near telegraph post No. $\frac{198}{19}$, and 16½ chains S. of milepost No. 199 from Nágpur.	885.19	Within the circle.
14	12.4	G.T.S. at BRIDGE. This bench-mark is cut on the top of the W. wall of the S. abutment of a 40-foot girder bridge near telegraph post No. $\frac{199}{23}$, and 6.7 chains S. of milepost No. 200 from Nágpur.	880.89	Ditto.
15	13.5	G.T.S. at CULVERT. This bench-mark is cut on the W. parapet of a culvert of four vents, near telegraph post No. $\frac{201}{2}$, and 4.8 chains N. of milepost No. 201 from Nágpur.	886.81	Ditto.
16	14.6	RAIL opposite BOOKING OFFICE at SILYARI RAILWAY STATION.	909.58	On the top of the rail.
17	14.6	G.T.S. at SILYARI RAILWAY STATION. This bench-mark is cut on the coping of the platform opposite the Booking Office.	911.10	Within the circle.
18	14.6	G.T.S. at SILYARI RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N. side of the station, 1½ feet away from the wall, and 6 inches below the level of the platform: it is 8 feet from the N.W. corner and 10½ feet from the N.E. corner of the station building, and 35 feet 10 inches from the edge of the platform. The letters B.M. have been cut on the N. face of the building to indicate the position of the bench-mark.	911.18	In the sunken square cut for the purpose on the stone.
19	15.7	G.T.S. at BRIDGE. This bench-mark is cut on the W.N.W. cap of the S.S.W. abutment of a 40-foot girder bridge near telegraph post No. $\frac{203}{6}$, and 27.6 chains N.N.E. of milepost No. 203 from Nágpur.	914.60	Within the circle.

SECTION—RAIPUR TO BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nággpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
20	17.1	G.T.S. at BRIDGE This bench mark is cut on the W parapet of the S abutment of a bridge of one span, near telegraph post No. $\frac{204}{15}$, and 30.2 chains S. of milepost No. 205 from Nággpur. O B.M.	926.80	Within the circle.
21	18.5	G.T.S. at BRIDGE This bench-mark is cut on the W end of the S abutment of a girder bridge of three 20-foot spans, near telegraph post No. $\frac{205}{23}$, and 2.65 chains S. of milepost No. 206 from Nággpur. O B.M.	915.89	Ditto.
22	19.3	G.T.S. at BRIDGE. This bench-mark is cut on the W. wall of the N abutment of a bridge of one span, near telegraph post No. $\frac{206}{20}$, and 13½ chains S. of milepost No. 207 from Nággpur. O B.M.	924.66	Ditto.
23	20.4	G.T.S. at BRIDGE. This bench-mark is cut on the W. cap of the N abutment of a girder bridge of two 20 foot spans, near telegraph post No. $\frac{207}{22}$, and 10 chains S. of milepost No. 208 from Nággpur. O B.M.	916.40	Ditto.
24	21.7	G.T.S. at BRIDGE This bench-mark is cut on the E end of the N abutment of a bridge of one span, near telegraph post No. $\frac{209}{6}$, and 19.8 chains N. of milepost No. 209 from Nággpur. O B.M.	923.41	Ditto.
25	22.6	G.T.S. at BRIDGE. This bench-mark is cut on the E end of the N. abutment of a bridge of one span, near telegraph post No. $\frac{210}{4}$, and 12 chains N. of milepost No. 210 from Nággpur. O B.M.	923.61	Ditto.
26	23.6	RAIL opposite BOOKING OFFICE at TILDA RAILWAY STATION.	915.74	On the top of the rail.

SECTION—RAIPUR TO BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
27	23.6	G.T.S. at TILDA RAILWAY STATION. ○ This bench-mark is cut on the coping of the platform opposite the Booking Office. B.M.	947.14	Within the circle.
28	23.6	G.T.S. at TILDA RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N. side of the station, 2 feet 4 inches away from the wall, with its top surface 6 inches below the level of the platform: it is 14 feet 8 inches from the N.E. corner and 18 feet 2 inches from the N.W. corner of the station building, 46 feet from the edge of the platform, and 26 feet 4 inches from the Home Semaphore. The letters B.M. have been cut on the N. face of the station to indicate the position of the bench-mark. □	947.58	In the sunken square cut for the purpose on the stone.
29	24.7	G.T.S. at BRIDGE. This bench-mark is cut on the W. cap of the S. abutment of a bridge of one span, near telegraph post No. $\frac{212}{3}$, and 10½ chains N. of milepost No. 212 from Nágpur. ○ B.M.	930.15	Within the circle.
30	25.3	G.T.S. at BRIDGE. This bench-mark is cut on the W. cap of the N. abutment of a girder bridge of two 20-foot spans, near telegraph post No. $\frac{212}{20}$, and 14 chains S. of milepost No. 213 from Nágpur. ○ B.M.	928.72	Ditto.
31	27.3	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the N.E. abutment of a bridge of one span, near telegraph post No. $\frac{214}{19}$, and 18.2 chains S.W. of milepost No. 215 from Nágpur. ○ B.M.	917.32	Ditto.
32	28.2	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the S.E. parapet of a single-arched bridge near telegraph post No. $\frac{215}{17}$, and 26 chains S.W. of milepost No. 216 from Nágpur. ○ B.M.	917.04	Ditto.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
33	29·4	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the N.E. abutment of a 40-foot girder bridge near telegraph post No. $\frac{216}{20}$, and 12 chains S.W. of milepost No 217 from Nágpur.	907·73	Within the circle.
34	30·2	RAIL opposite BOOKING OFFICE at HATHBAND RAILWAY STATION.	920·71	On the top of the rail.
35	30·2	G.T.S. at HATHBAND RAILWAY STATION. This bench-mark is cut on the coping of the platform opposite the Booking Office.	922·26	Within the circle.
36	30·2	G.T.S. at HATHBAND RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N.E. side of the station, 2 feet 5 inches away from the wall, and 6 inches below the surface of the platform: it is 11 feet 10 inches from the E. corner and 16 feet 7 inches from the N. corner of the station building, 49½ feet from the edge of the platform, and 30 feet from the Home Semaphore. The letters B.M. have been cut on the N.E. face of the building to indicate the position of the bench-mark.	922·15	In the sunken square cut for the purpose on the stone.
37	31·6	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. cap of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{219}{1}$, and 1½ chains N.E. of milepost No. 219 from Nágpur.	927·60	Within the circle.
38	32·9	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. cap of the S.W. abutment of an iron girder bridge of one span, near telegraph post No. $\frac{220}{7}$, and 22·3 chains S.W. of milepost No. 220 from Nágpur.	916·67	Ditto.
39	34·2	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. cap of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{221}{13}$, and 37½ chains S.W. of milepost No. 222 from Nágpur.	902·70	Ditto.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
40	35.1	G.T.S. at CULVERT. This bench-mark is cut on the S.W. end of the N.W. parapet of a culvert of two vents, near telegraph post No. $\frac{222}{11}$, and 35 chains N.E. of milepost No. 222 from Nágpur. O B.M.	914.22	Within the circle.
41	36.8	G.T.S. at BRIDGE. This bench-mark is cut on the N.W. cap of the N.E. abutment of a bridge of one span, near telegraph post No. $\frac{223}{19}$, and 32.6 chains S.W. of milepost No. 224 from Nágpur. O B.M.	894.16	Ditto.
42	37.7	G.T.S. at CULVERT. This bench-mark is cut on the N.E. end of the N.W. parapet of a culvert of two vents, near telegraph post No. $\frac{225}{1}$, and 3 chains N.E. of milepost No. 225 from Nágpur. O B.M.	892.38	Ditto.
43	38.8	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the N.E. abutment of a bridge of one span, near telegraph post No. $\frac{226}{4}$, and 12.85 chains N.E. of milepost No. 226 from Nágpur. O B.M.	885.69	Ditto.
44	39.8	RAIL opposite BOOKING OFFICE at BHÁTÁ-PÁRA RAILWAY STATION.	885.80	On the top of the rail.
45	39.8	G.T.S. at BHÁTÁ-PÁRA RAILWAY STATION. This bench-mark is cut on the B.M. coping of the platform opposite the Booking Office. O B.M.	887.38	Within the circle.
46	39.8	G.T.S. at BHÁTÁ-PÁRA RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N.E. side of the station, 2 feet 2 inches away from the wall, and 7 inches below the surface of the platform: it is 12 feet from the E. corner and 16 feet from the N. corner of the station building, 44 feet from the edge of the platform, and 24 feet 8 inches from the Home Semaphore. The letters B.M. have been cut on the N.E. face of the station building to indicate the position of the bench-mark. O B.M.	887.42	In the sunken square cut for the purpose on the stone.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nággpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
47	40.1	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{227}{11}$, 35.5 chains N.E. of milepost No. 227 from Nággpur, and 28.7 chains N.E. of Bhátápáram Railway Station. O B.M.	889.89	Within the circle.
48	40.9	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{228}{6}$, and 19½ chains N.E. of milepost No. 228 from Nággpur. O B.M.	894.33	Ditto.
49	42.5	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the S.W. abutment of a bridge of one span, near telegraph post No. $\frac{229}{19}$, and 18.6 chains S.W. of milepost No. 230 from Nággpur. O B.M.	871.27	Ditto.
50	43.7	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the N.E. abutment of a bridge of one span, near telegraph post No. $\frac{230}{24}$, and 2 chains S.W. of milepost No. 231 from Nággpur. O B.M.	874.41	Ditto.
51	44.8	G.T.S. at BRIDGE. This bench-mark is cut on the S.E. cap of the N.E. abutment of a bridge of one span, near telegraph post No. $\frac{232}{1}$, and 1 chain N.E. of milepost No. 232 from Nággpur. O B.M.	870.43	Ditto.
52	45.1	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the S.E. parapet of a single-arched bridge near telegraph post No. $\frac{233}{10}$, and 30.3 chains N.E. of milepost No. 233 from Nággpur. O B.M.	872.85	Ditto.
53	46.7	G.T.S. at BRIDGE. This bench-mark is cut on the N.E. end of the S.E. parapet of a single-arched bridge near telegraph post No. $\frac{233}{23}$, and 3.6 chains S.W. of milepost No. 234 from Nággpur. O B.M.	879.01	Ditto.

SECTION—RAIPUR TO BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nággpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
54	47.9	G.T.S. at BRIDGE. This bench-mark is cut on the E.S.E. cap of the S.S.W. abutment of a bridge of one span, near telegraph post No. $\frac{235}{6}$, and 18 chains N.N.E. of milepost No. 235 from Nággpur. O B.M.	865.53	Within the circle.
55	48.3	G.T.S. at NIPÁNIA RAILWAY STATION. This bench-mark is cut on the coping of the platform opposite the Booking Office. O B.M.	843.75	Ditto.
56	49.9	RAIL opposite BOOKING OFFICE at NIPÁNIA RAILWAY STATION.	847.07	On the top of the rail.
57	48.9	G.T.S. at NIPÁNIA RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 2½ feet by 2 feet and 3 feet deep, at the N.E. side of the station, 2½ feet away from the wall, and 6 inches below the surface of the platform: it is 15 feet from the E. corner and 13 feet 5 inches from the N. corner of the station building, 46 feet 8 inches from the edge of the platform, and 27 feet from the Home Semaphore. The letters B.M. have been cut on the N.E. face of the station building to indicate the position of the bench-mark. □	848.92	In the sunken square cut for the purpose on the stone.
58	50.4	G.T.S. at CULVERT. This bench-mark is cut on the S.S.W. end of the W.N.W. parapet of a single-arched culvert near telegraph post No. $\frac{237}{15}$, and 32.65 chains S.S.W. of milepost No. 238 from Nággpur. O B.M.	823.72	Within the circle.
59	52.1	G.T.S. at SEONÁTH BRIDGE. This bench-mark is cut on the E. end of the S. abutment, in line with the E. girders, of a girder bridge of fourteen 150-foot spans, 28½ chains N. of milepost No. 239 from Nággpur. O B.M.	819.25	Ditto.
60	52.6	G.T.S. at SEONÁTH BRIDGE. This bench-mark is cut on the E. end of the N. abutment, in line with the E. girders, of a girder bridge of fourteen 150-foot spans, 21.3 chains S. of milepost No. 240 from Nággpur. O B.M.	819.20	Ditto.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nággpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
61	54.4	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the N. abutment of a bridge of one span, near telegraph post No. $\frac{241}{14}$, and 33 chains S. of milepost No. 242 from Nággpur.	835.74	Within the circle.
62	56.0	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the N. abutment of a bridge of one span, near telegraph post No. $\frac{243}{5}$, and 15½ chains N. of milepost No. 243 from Nággpur.	851.90	Ditto.
63	57.2	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the N. abutment of a bridge of one span, near telegraph post No. $\frac{244}{9}$, and 30 chains N. of milepost No. 244 from Nággpur.	859.82	Ditto.
64	58.3	G.T.S. at BRIDGE. This bench-mark is cut on the N. end of the E. parapet of a single-arched bridge near telegraph post No. $\frac{245}{11}$, and 37½ chains N. of milepost No. 245 from Nággpur.	874.96	Ditto.
65	58.8	G.T.S. at BELHA RAILWAY STATION. O This bench-mark is cut on the coping of the platform opposite the Booking Office. B.M.	877.50	Ditto.
66	58.8	G.T.S. at BELHA RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 3 feet cube, at the N.E. side of the station, 2 feet 10 inches away from the wall, and 6 inches below the surface of the platform: it is 13 feet 6 inches from the E. corner and 15 feet 4 inches from the N. corner of the station building, 40 feet 9 inches from the edge of the platform, and 23 feet 5 inches from the Home Semaphore. The letters B.M. have been cut on the N.E. face of the station building to indicate the position of the bench-mark.	877.50	In the sunken square cut for the purpose on the stone.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpúr Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
67	55·8	RAIL opposite BOOKING OFFICE at BELHA RAILWAY STATION.	875·73	On the top of the rail.
68	59·6	G.T.S. at BRIDGE. This bench-mark is cut on the W.N.W. cap of the S.S.W. B.M. abutment of a bridge of one span, near telegraph post No. $\frac{246}{19}$, and 18½ chains S.S.W. of milepost No. 247 from Nágpúr.	876·02	Within the circle.
69	60·9	G.T.S. at BRIDGE. This bench-mark is cut on the W.N.W. cap of the S.S.W. B.M. abutment of a bridge of one span, near telegraph post No. $\frac{248}{2}$, and 5½ chains N.N.E. of milepost No. 248 from Nágpúr.	893·70	Ditto.
70	62·5	BODRI G. T. SURVEY TOWER STATION, lat. 22° 0' 22", long. 82° 8' 54". This is a principal station of the Biláspur Meridional Series, and is situated on the highest part of some rising ground, about ¼ mile S.W. of Bhátápára village, and within the lands of the village of Bodri: purgana Ratanpur, district Biláspur of the Central Provinces. The station consists of a tower of sun-dried bricks enclosing a perforated pillar of masonry, 20·53 feet in height, and has a mark in the ground floor and another 1·17 feet below. The azimuths and perambulated distances of the circumjacent villages are:—Ráungi 38° 53', miles 1·36; Bodri 207° 8', miles 1·21; and Chakarbháta 284° 8', miles 1·19. <i>Note.</i> —When visited by the Levelling Party, the tower of sun-dried bricks had crumbled away forming a mound of earth about 10 feet in height enclosing the pillar: a part of the exposed portion of the masonry on the W. side had fallen away, also portion of the top of the circular pillar. The top surface of the masonry pillar (there being no upper mark-stone)—to which the height in the next column refers—was found by direct measurement to be 15·04 feet above a brick at the W. foot of the tower, on which the levelling staff rested.	946*	This height refers to the top surface of the pillar.

SECTION—RAIPUR to BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nággpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
71	64.2	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the N. abutment of a bridge of one span, near telegraph post No. $\frac{251}{4}$, and $12\frac{1}{2}$ chains N. of milepost No. 251 from Nággpur.	885.68	Within the circle
72	65.2	G.T.S. at BRIDGE. This bench-mark is cut on the E. cap of the N. abutment of a bridge of one span, near telegraph post No. $\frac{252}{2}$, and 7.35 chains N. of milepost No. 252 from Nággpur.	880.12	Ditto.
73	66.2	G.T.S. at BRIDGE. This bench mark is cut on the W.N.W. cap of the N.N.E. B.M. abutment of a bridge of one span, near telegraph post No. $\frac{253}{2}$, and 6.85 chains N.N.E. of milepost No. 253 from Nággpur.	880.61	Ditto.
74	66.5	G.T.S. at BRIDGE. This bench-mark is cut on the W.N.W. cap of the N.N.E. B.M. abutment of a girder bridge of three 40 foot spans, near telegraph post No. $\frac{253}{11}$, and 34.9 chains N.N.E. of milepost No. 253 from Nággpur.	879.96	Ditto.
75	67.5	G.T.S. at CULVERT. This bench mark is cut on the N. cap of the E. abutment of a culvert of three vents, near telegraph post No. $\frac{254}{11}$, and 30.4 chains E. of milepost No. 254 from Nággpur.	880.70	Ditto.
76	68.9	G.T.S. at BILÁSPUR RAILWAY STATION. This bench mark is cut on the coping of the platform, 1.2 chains W. of the embedded bench-mark No. 300 of this Section.	888.51	Ditto.
77	68.9	RAIL opposite BOOKING OFFICE at BILÁSPUR RAILWAY STATION.	881.72	On the top of the rail.

SECTION—RAIPUR TO BILÁSPUR.

Spirit Levelling from Raipur along the main line of the Bengal-Nágpur Railway to Biláspur.

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
78	68.0	G.T.S. at BILÁSPUR RAILWAY STATION. ○ This bench-mark is cut on the coping of the platform opposite the Booking Office. B.M.	883.46	Within the circle.
79	68.9	G.T.S. at BILÁSPUR RAILWAY STATION. B.M. This bench-mark is embedded in a bed of concrete on the foundation of the station building, the surface of the stone being 6 inches below the level of the platform and covered with a course of brick-on-edge. It is at the S.W. corner of the second pillar of the verandah, counting from the W., 12 feet 6 inches from the centre of the door of the Station Master's Office, 27 feet from the S.W. corner of the station building, 41 feet 5 inches from the Home Semaphore, and 30 feet 4 inches from the edge of the platform. The letters B.M. have been cut on the base of the pillar to indicate the position of the bench-mark. □	883.35	In the sunken square cut for the purpose on the stone.
$\frac{1}{79}$	2.5*	BILÁSPUR G. T. SURVEY STATION, lat. 22° 5' 6", long. 82° 12' 1". This is a secondary station of the Biláspur Meridional Series, and is situated in the civil station of Biláspur, on the maidan between the Arpa River and the Gol Bázár, about 100 yards N.N.E. of the eastern gateway of the Gol Bázár, 60 yards due N. of the Vernacular School, 23 feet N.E. of Hardeo Lála-ka-kna, and 400 yards W. of the fort and village of Biláspur: it is marked by a triangular masonry pillar of 2½ feet side and 3 feet high, with mark-stones at top and bottom, and surrounded by a masonry platform. Note.—The station when visited by the Levelling Party was found in good order.	857.75	On the upper mark-stone.
$\frac{2}{79}$	2.7*	G.T.S. at SADAR BÁZÁR, BILÁSPUR. This bench-mark is cut on the W. end of the B.M. first step from the bottom of Bisweswar-náth Zamindár's house, ○	857.11	Within the circle.

* From Bench-mark No. 79.

SECTION—RAIPUR to BILÁSPUR.

*Spirit Levelling from Raipur along the main line of the Bengal-Nágpur
Railway to Biláspur.*

No. in Section.	Approximate Distance in Miles from Raipur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
$\frac{3}{79}$	3.5*	G.T.S. at OBELISK, BILÁSPUR. This ○ bench-mark is cut on the top of the B.M. pedestal, 0.485 of a foot below the P.W.D. bench-mark $\left(\frac{870.3}{\Delta} \right)$ cut on the S. face of the obelisk which is situated in front of the Tahsildár's Kachahri and in the centre of the crossing of the roads from Jabalpur and Raipur.	870.01	Within the circle.
$\frac{4}{79}$	3.7*	G.T.S. at ZILLÁ KACHAHRI, BILÁSPUR. ○ This bench-mark is cut on the centre of B.M. the first step from the bottom, at the E. entrance to the Kachahri.	886.89	Ditto.

* From Bench-mark No. 79.

Note—All the Bench marks of this Section are identical with those given on pages 95-110, Section Nágpur to Biláspur of Spirit-Levelling Heights No. 7, Bombay Presidency, &c., Seasons 1890-91-92 Revised Edition, 1896.

DEHRA DÚN, }
March, 1900. }

J. ECCLES,
In charge of Computing Office.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
1	0.0	G.T.S. at BILÁSPUR RAILWAY STATION. B.M. This bench-mark is embedded in a bed of concrete on the foundation of the station building, the surface of the stone being 6 inches below the level of the platform and covered with a course of brick-on-edge. It is at the S.W. corner of the second pillar of the verandah, counting from the W., 12 feet 6 inches from the centre of the door of the Station Master's Office, 27 feet from the S.W. corner of the station building, 41 feet 5 inches from the Home Semaphore, and 30 feet 4 inches from the edge of the platform. The letters B.M. have been cut on the base of the pillar to indicate the position of the bench-mark. <i>Note.</i> —This bench-mark is identical with No. 800 of Section Nágpur to Biláspur of <i>Spirit-Levelling Heights No. 7 Bombay Presidency, &c., Seasons 1890-91-92. Revised Edition, 1896.</i>	883.85	In the sunken square cut for the purpose on the stone.
2	0.2	G.T.S. at BILÁSPUR RAILWAY INSTI- B. M. TUTE. Cut on the stone coping of the end or first newel of the flight of steps on the S. side of the Institute and water tank.	883.88	On the head of the arrow.
3	0.8	G.T.S. at ROAD CULVERT. Cut on the coping of the W. parapet of a single-arch culvert on the N. side of the railway line and close to level-crossing No. 1 from Biláspur.	882.42	Within the circle.
4	5.6	G.T.S. at BRIDGE NO. 2. Cut on the E.N.E. parapet of a 10-foot single-arch bridge, B.M. between telegraph posts Nos. $\frac{261}{8}$ and $\frac{261}{9}$.	897.70	Ditto.
5	9.4	G.T.S. at GHUTKU RAILWAY STATION. B.M. Cut on N. end of base of S. distant signal.	938.08	Ditto.
6	9.9	G.T.S. at GHUTKU RAILWAY STATION. B.M. Cut on coping at S.S.E. end of platform above ramp.	937.24	Ditto.

SECTION—BILĀSPUR to KATNI.

Spirit Levelling from Bilāspur along the Branch line of the Bengal-Nāgpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Bilāspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
7	10·0	G.T.S. at GHUTKU RAILWAY STATION. □ This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 6 inches below the level of the station platform, and covered with earth. It is at the centre of the S.E. side of the station building, 17 feet 8 inches from each of the two corners, 9 feet 8 inches from the E.N.E. corner of the S.E. arch of the front verandah, and 1 foot 6 inches from the wall. The letters B.M. have been cut on the S.S.E. face of the building, to indicate the position of the bench-mark.	936·93	In the sunken square cut for the purpose on the stone.
8	10·0	RAIL at GHUTKU RAILWAY STATION. Opposite the Booking Office.	936·20	On the top of the rail.
9	10·0	G.T.S. at GHUTKU RAILWAY STATION. ○ Cut on coping of platform opposite the Booking Office.	937·40	Within the circle.
10	10·0	G.T.S. at GHUTKU RAILWAY STATION. ○ Cut on coping at N.N.W. end of platform.	937·40	Ditto.
11	10·6	G.T.S. at GHUTKU RAILWAY STATION. ○ Cut on base of N.N.W. distant signal.	938·79	Ditto.
12	11·3	G.T.S. at BRIDGE NO. 5. Cut on coping at W. end of S. abutment of an iron-girder bridge of one 6-foot span, between telegraph posts Nos. $\frac{207}{2}$ and $\frac{267}{3}$.	946·15	Ditto.
13	11·3	G.T.S. at BRIDGE NO. 6. Cut on coping at W. end of S. abutment of an iron-girder bridge of one 12-foot span, between telegraph posts Nos. $\frac{267}{11}$ and $\frac{267}{12}$.	946·15	Ditto.
14	12·5	G.T.S. at BRIDGE NO. 7. Cut on coping at W. end of S. abutment of an iron-girder bridge of one 12-foot span, between telegraph posts Nos. $\frac{268}{5}$ and $\frac{268}{6}$.	953·91	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
15	14.2	G.T.S. at BRIDGE NO. 8. Cut on coping at ○ W. end of S. abutment of an iron-girder B.M. bridge of two 12-foot spans, near telegraph post No. $\frac{269}{18}$, and $1\frac{1}{2}$ chains S. of mile-post No. 270 from Nágpur.	967.86	Within the circle.
16	15.2	G.T.S. at BRIDGE NO. 9. Cut on coping at ○ W. end of N. abutment of an iron-girder B.M. bridge of one 12-foot span, between telegraph posts Nos. $\frac{270}{17}$ and $\frac{270}{18}$.	978.47	Ditto.
17	15.7	G.T.S. at BRIDGE NO. 10. Cut on coping at ○ W. end of N. abutment of an iron-girder B.M. bridge of one 12-foot span, near telegraph post No. $\frac{271}{9}$.	978.90	Ditto.
18	17.8	G.T.S. at BRIDGE NO. 11. Cut on coping at ○ W. end of S. abutment of a girder bridge B.M. of two 12-foot spans, near telegraph post No. $\frac{273}{8}$.	992.00	Ditto.
19	18.2	G.T.S. at BRIDGE NO. 12. Cut on coping at ○ W. end of S. abutment of a girder bridge B.M. of one 12-foot span, near telegraph post No. $\frac{274}{1}$, and $1\frac{1}{2}$ chains N. of mile-post No. 274 from Nágpur.	1010.45	Ditto.
20	19.2	G.T.S. at BRIDGE NO. 13. Cut on coping at ○ S.W. end of S.E. abutment of a girder B.M. bridge of one 12-foot span, near distant signal of Kota Railway Station, and at mile-post No. 275 from Nágpur.	1042.58	Ditto.
21	19.4	G.T.S. at BRIDGE NO. 14. Cut on coping at ○ S.W. end of S.E. abutment of a 6-foot B.M. girder bridge near telegraph post No. $\frac{275}{6}$.	1047.77	Ditto.
22	19.7	G.T.S. at KOTA RAILWAY STATION. Cut ○ on coping at S.E. end of platform. B.M.	1050.94	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
23	10 8	G.T.S. at KOTA RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry 8 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 13 inches below the level of the station platform, and covered with earth. It is at the S.E. side of the station building, 6½ feet and 21½ feet respectively from the E and S corners of the building excluding the verandah, 11 feet 4 inches from the N.E. corner of the S.E. arch of the front verandah, 1½ feet from the wall, and 20½ feet from the Home Semaphore. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.	1050.40	In the sunken square cut for the purpose on the stone.

Branch line to DALEA G. T. SURVEY STATION.

$\frac{1}{23}$	22 8	DALEA G. T. SURVEY STATION, lat. 22° 19' 31", long 82° 3' 58". This is a principal station of the Biláspur Meridional Series, and is situated about ¼ of a mile E. of the railway line and 2 miles N. of Kota Railway Station on the Biláspur-Katni Branch of the Bengal-Nágpur Railway. It is on an isolated peak, locally so named, which overlooks the plains and is separated from the great mass of hills to the north by a distance of about 10 miles. The hill is owned jointly by the villages of Nawágaon, Billáhan and Ámbáhi, and the station is within the lands of the last-named village. The road to the station leads from Ámbáhi village. It is in the Kendra Zamindari, tálik and district Biláspur, Central Provinces. The station consists of a solid masonry pillar, enclosed by a platform of stones and earth, about 17 feet square and 4 feet high, and contains two marks, the upper 4.00 feet above the lower which is engraved on the rock <i>in situ</i> . The azimuths and estimated distances of the circumjacent villages are — Nawágaon 175° 54', miles 1.75, Billáhan 227° 8', miles 2, and Ámbáhi 821° 46', miles 2. <i>Note</i> —The station, when visited by the Levelling Party, was found in good order, and the intersection of the grooves on the top of the protecting pillar to which the height in the next column refers, was found by direct measurement to be 495.308 feet above a peg at the foot of the hill, on which the levelling staff rested.	1629*	This height refers to the intersection of the grooves on the top of the protecting pillar.
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* Correct to the nearest foot.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
23	19·8	G.T.S. at KOTA RAILWAY STATION. <div> <div>□</div> <p>This bench-mark is embedded in a block B.M. of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 18 inches below the level of the station platform, and covered with earth. It is at the S.E. side of the station building, 6½ feet and 21½ feet respectively from the E. and S. corners of the building excluding the verandah, 11 feet 4 inches from the N.E. corner of the S.E. arch of the front verandah, 1½ feet from the wall, and 20½ feet from the Home Semaphore. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.</p> </div>	1050·49	In the sunken square cut for the purpose on the stone.

Branch line to DALEA G. T. SURVEY STATION.

$\frac{1}{23}$	22·8	DALEA G. T. SURVEY STATION, lat. 22° 19' 34", long. 82° 3' 58". This is a principal station of the Biláspur Meridional Series, and is situated about $\frac{2}{3}$ of a mile E. of the railway line and 2 miles N. of Kota Railway Station on the Biláspur-Katni Branch of the Bengal-Nágpur Railway. It is on an isolated peak, locally so named, which overlooks the plains and is separated from the great mass of hills to the north by a distance of about 10 miles. The hill is owned jointly by the villages of Nawágaon, Billibau and Ámbáli, and the station is within the lands of the last-named village. The road to the station leads from Ámbáli village. It is in the Kenda Zamin-dari, táluk and district Biláspur, Central Provinces. The station consists of a solid masonry pillar, enclosed by a platform of stones and earth, about 17 feet square and 4 feet high, and contains two marks, the upper 4·00 feet above the lower which is engraved on the rock <i>in situ</i> . The azimuths and estimated distances of the circumjacent villages are:— Nawágaon 175° 54', miles 1·75; Billi-bau 227° 9', miles 2; and Ámbáli 321° 48', miles 2. <i>Note.</i> —The station, when visited by the Levelling Party, was found in good order, and the intersection of the grooves on the top of the protecting pillar to which the height in the next column refers, was found by direct measurement to be 495·308 feet above a peg at the foot of the hill, on which the levelling staff rested.	1629*	This height refers to the intersection of the grooves on the top of the protecting pillar.
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* Correct to the nearest foot.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nággpur Railway to Katni-Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
88	27.8	G.T.S. at BRIDGE NO. 22. Cut on coping at W. end of N. abutment of an iron girder bridge of two 20-foot spans, over Ralla nála, near telegraph post No. $\frac{283}{8}$.	1078.54	Within the circle.
84	28.0	G.T.S. at BRIDGE NO. 23. Cut on W. pillar cap of N. abutment of a girder bridge of two 20-foot spans, over Pathri nála, near telegraph post No. $\frac{283}{16}$.	1080.16	Ditto.
35	28.7	G.T.S. at BRIDGE NO. 24. Cut on W. pillar cap of S. abutment of a girder bridge of two 40-foot spans, over Ama nála, near telegraph post No. $\frac{284}{10}$.	1089.83	Ditto.
86	29.5	G.T.S. at BELGHÁNA RAILWAY STATION. Cut on coping of platform at S. end.	1086.74	Ditto.
37	29.5	G.T.S. at BELGHÁNA RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 7 inches below the level of the station platform, and covered with earth. It is at the S. side of the station building, 18 feet 9 inches from the S.E. corner of the verandah, 21 feet 10 inches from the S.W. corner of the building, 2 feet 3 inches from the wall, and 20 feet N.W. of the Home Semaphore. The letters B.M. have been cut on the S. face of the building to indicate the position of the bench-mark.	1086.63	In the sunken square cut for the purpose on the stone.
38	29.5	RAIL at BELGHÁNA RAILWAY STATION. Opposite Home Semaphore.	1086.48	On the top of the rail.
39	29.6	G.T.S. at BELGHÁNA RAILWAY STATION. Cut on coping of platform at N. end.	1086.80	Within the circle.
40	30.1	G.T.S. at BRIDGE NO. 26. Cut on W. pillar cap of N. abutment of a girder bridge of three 40-foot spans, over Donga nála, between telegraph posts Nos. $\frac{285}{16}$ and $\frac{235}{17}$.	1086.55	Ditto.

SECTION—BILÁSPUR TO KATNI.

spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet Above Mean Sea Level.	Position of Levelling Staff.
41	31.3	G.T.S. at BRIDGE NO. 27. Cut on W. pilaster cap of N. abutment of a 40-foot girder bridge over Lapa nála, between telegraph posts Nos. $\frac{287}{1}$ and $\frac{287}{2}$.	1099.88	Within the circle.
42	31.5	G.T.S. at BRIDGE NO. 28. Cut on W. pilaster cap of S. abutment of a girder bridge of three 12-foot spans, near telegraph post No. $\frac{287}{12}$.	1105.73	Ditto.
43	32.8	G.T.S. at BRIDGE NO. 29. Cut on W. pilaster cap of N. abutment of a girder bridge of two 12-foot spans, near telegraph post No. $\frac{288}{12}$.	1123.89	Ditto.
44	33.7	G.T.S. at BRIDGE NO. 30. Cut on S.W. pilaster cap of S.E. abutment of a girder bridge of five 12-foot spans, near telegraph post No. $\frac{289}{10}$.	1141.59	Ditto.
45	34.4	G.T.S. at BRIDGE NO. 31. Cut on S.W. pilaster cap of N.W. abutment of a girder bridge of four 12-foot spans, near telegraph post No. $\frac{290}{3}$.	1158.51	Ditto.
46	35.3	G.T.S. at BRIDGE NO. 32. Cut on S.W. pilaster cap of N.W. abutment of a girder bridge of four 12-foot spans, near telegraph post No. $\frac{291}{2}$.	1190.23	Ditto.
47	36.1	G.T.S. at BRIDGE NO. 33. Cut on S.W. pilaster cap of S.E. abutment of a girder bridge of five 12-foot spans, near telegraph post No. $\frac{291}{16}$.	1190.81	Ditto.
48	36.6	G.T.S. at BRIDGE NO. 34. Cut on S.E. pilaster cap of N.W. abutment of a girder bridge of two 12-foot spans, near telegraph post No. $\frac{292}{7}$.	1200.36	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
49	37.0	G.T.S. at BRIDGE NO. 35. Cut on W. pilaster cap of S. abutment of a 6-foot girder bridge, near telegraph post No. $\frac{292}{15}$. ○ B.M.	1192.99	Within the circle.
50	37.8	G.T.S. at BRIDGE NO. 36. Cut on S.W. pilaster cap of S.E. abutment of a girder bridge of three 40-foot spans, over Suknai nála, near telegraph post No. $\frac{293}{11}$. ○ B.M.	1176.70	Ditto.
51	39.0	G.T.S. at BRIDGE NO. 37. Cut on S.W. pilaster cap of N.W. abutment of a 6-foot girder bridge, near telegraph post No. $\frac{294}{15}$. ○ B.M.	1207.65	Ditto.
52	39.4	G.T.S. at BRIDGE NO. 38. Cut on S. pilaster cap of W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{295}{4}$. ○ B.M.	1212.61	Ditto.
53	40.1	G.T.S. at BRIDGE NO. 40. Cut on S. pilaster cap of E. abutment of a girder bridge of four 40-foot spans, over Sagor nála, near telegraph post No. $\frac{295}{18}$, 1 chain E. of mile-post No. 296 and near E. distant signal of Khongsara Railway Station. ○ B.M.	1211.06	Ditto.
54	40.8	G.T.S. at KHONGSARA RAILWAY STATION. Cut on coping of platform at E. end. ○ B.M.	1218.59	Ditto.
55	40.8	G.T.S. at KHONGSARA RAILWAY STATION. This bench-mark is embedded in a block of masonry 8 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 5 inches below the level of the station platform and covered with earth. It is on the E. side of the station building, 18 feet 3 inches and 21 feet 4 inches respectively from the N.E. and S.E. corners, 1 foot 7 inches from the wall, 104 feet S.W. of the Home Semaphore, and 18 feet W. of the water-tap. The letters B M. have been cut on the E. face of the building to indicate the position of the bench-mark. □ B.M.	1210.14	In the sunken square cut for the purpose on the stone.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
56	40.8	RAIL at KHONGSARA RAILWAY STATION. In front of the centre of the station building.	1217.21	On the top of the rail.
57	40.8	G.T.S. at KHONGSARA RAILWAY STATION. Cut on coping of platform opposite centre of station building. O B.M.	1218.57	Within the circle.
58	40.9	G.T.S. at KHONGSARA RAILWAY STATION. Cut on coping of platform at W. end. O B.M.	1218.60	Ditto.
59	42.8	G.T.S. at BRIDGE NO. 41. Cut on S.W. B.M. pilaster cap of S.E. abutment of a 6-1221.25 foot girder bridge, near telegraph post No. $\frac{298}{11}$. (Railway bench-mark).	1218.89	On the head of the arrow.
60	48.5	G.T.S. B.M. at BRIDGE NO. 43. Cut on W. 1236.91 pilaster cap of S. abutment of a girder bridge of five 60-foot spans, over Matinara nála and near telegraph post No. $\frac{299}{7}$. (Railway bench-mark).	1232.84	Ditto.
61	45.8	G.T.S. B.M. at BRIDGE NO. 44. Cut on coping at S. end of E. abutment of a 6-foot girder bridge, between telegraph posts Nos. $\frac{801}{2}$ and $\frac{801}{3}$. (Railway bench-mark). A 1825.06	1821.01	Ditto.
62	45.8	G.T.S. at BRIDGE NO. 45. Cut on W. pilaster cap of S. abutment of a girder bridge of five 40-foot spans over Anjái nála, and between telegraph posts Nos. $\frac{801}{11}$ and $\frac{801}{12}$. (Railway bench-mark). A B.M. 1236.01	1847.94	Ditto.
63	46.8	G.T.S. B.M. at BRIDGE NO. 47. Cut on 1892.94 N.W. pilaster cap of S.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{802}{12}$. (Railway bench-mark). A	1401.01	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
64	40.3	G.T.S. \wedge B.M. at BRIDGE NO. 49. Cut on 1516.29 W. pilaster cap of S. abutment of a 20-foot girder bridge near telegraph post No. $\frac{305}{2}$, and about 6 chains N.N.W. of mile-post No. 305. (Railway bench-mark).	1511.49	On the head of the arrow.
65	40.5	G.T.S. B.M. at BRIDGE NO. 50. Cut on N.W. \wedge 1527.88 pilaster cap of S.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{305}{7}$. (Railway bench-mark).	1521.97	Ditto;
66	40.7	G.T.S. B.M. at BRIDGE NO. 51. Cut on N. \wedge 1539.53 pilaster cap of W. abutment of a 12-foot girder bridge, between telegraph posts Nos. $\frac{305}{11}$ and $\frac{305}{12}$. (Railway bench-mark).	1534.18	Ditto.
67	50.4	G.T.S. at BRIDGE NO. 52. Cut on coping at N.W. end of S.W. abutment of a girder B.M. bridge of two 200-foot spans, near telegraph post No. $\frac{306}{6}$.	1575.28	Within the circle.
68	51.0	G.T.S. at KHODRI TUNNEL. Cut on N.E. corner of E. drain, 1 1/2 feet N. of N. B.M. opening of tunnel, and 7 feet 4 inches E. of the railway line.	1596.40	Ditto.
69	51.4	\wedge at BRIDGE NO. 57. Cut on G.T.S. B.M. N.N.W. pilaster cap at W.S.W. abutment of a 6-foot girder bridge, near telegraph post No. $\frac{307}{1}$. (Railway bench-mark).	1619.18	On the head of the arrow.
70	51.7	G.T.S. at BRIDGE NO. 58. Cut on S.E. pilaster cap of N.E. abutment of a 40-foot B.M. girder bridge, between telegraph posts Nos. $\frac{307}{6}$ and $\frac{307}{7}$.	1636.17	Within the circle.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
71	53.8	B. O. M. at RAILWAY GANGMEN'S QUARTERS NO. 19. Cut on rock <i>in situ</i> on W. margin of railway line, in the cutting 4 chains N. of the Gangmen's Quarters, and 36 chains S. of mile-post No. 310,	1747.13	Within the circle.
72	54.0	G.T.S. at CULVERT NO. 61. Cut on coping B. A. M. at N.W. end of S.W. abutment of a 1762.83 culvert with 2 vents, near telegraph post No. $\frac{809}{16}$. (Railway bench-mark).	1756.65	On the head of the arrow.
73	55.1	G.T.S. A. B.M. at BRIDGE NO. 63. Cut on 1820.14 coping at S.W. end of S.E. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{310}{16}$. (Railway bench-mark).	1813.91	Ditto.
74	55.5	G.T.S. at KHODRI RAILWAY STATION. O. B.M. Cut on coping of platform at S.E. end.	1818.19	Within the circle.
75	55.5	G.T.S. at KHODRI RAILWAY STATION. \square B.M. of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, the surface of the stone being 6 inches below the level of the station platform, and covered with earth. It is at the S.E. side of the station building, 13 feet 6 inches and 21 feet 2 inches respectively from the E. and S. corners, 2 feet from the wall, 20 feet 2 inches S.W. of the Home Semaphore, and 25 feet from the water-tap. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.	1818.64	In the sunken square cut for the purpose on the stone.
76	55.5	RAIL at KHODRI RAILWAY STATION. Opposite third class waiting room.	1817.15	On the top of the rail.
77	55.5	G.T.S. at KHODRI RAILWAY STATION. O. B.M. Cut on coping of platform opposite third class waiting room.	1818.48	Within the circle.
78	55.6	G.T.S. at KHODRI RAILWAY STATION. O. B.M. Cut on coping of platform at N.W. end.	1818.78	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
79	55.8	G.T.S. \nearrow B.M. at BRIDGE NO. 66. Cut on 1826.67 S.W. pilaster cap of S.E. abutment of a girder bridge of three 60-foot spans, over Malania nála, near telegraph post No. $\frac{811}{10}$. (Railway bench-mark).	1819.76	On the head of the arrow.
80	56.9	G.T.S. at BRIDGE NO. 68. Cut on W.S.W. \circ pilaster cap of S.S.E. abutment of a B.M. girder bridge of three 20-foot spans, between telegraph posts Nos. $\frac{312}{11}$ and $\frac{312}{12}$.	1848.48	Within the circle.
81	57.9	G.T.S. at BRIDGE NO. 69. Cut on S.W. \circ pilaster cap of N.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{818}{18}$.	1882.38	Ditto.
82	58.5	G.T.S. at BRIDGE NO. 70. Cut on S.W. \circ pilaster cap of S.E. abutment of a B.M. girder bridge of three 20-foot spans, near telegraph post No. $\frac{314}{4}$.	1889.57	Ditto.
83	59.8	G.T.S. at BRIDGE NO. 71. Cut on W. pilaster cap of S. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{314}{17}$, and $1\frac{1}{2}$ chains N. of mile-post No. 815 from Nagpur.	1920.17	Ditto.
84	60.6	G.T.S. at BRIDGE NO. 73. Cut on W. pilaster cap of S. abutment of a 40-foot girder bridge, near telegraph post No. $\frac{316}{5}$.	1954.16	Ditto.
85	62.6	G.T.S. at PENDRA ROAD RAILWAY STATION. Cut on coping of platform at S. end. \circ B.M.	2029.11	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
86	62.6	G.T.S. at PENDRA ROAD RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick and covered with earth, the surface of the stone being 6 inches below the level of the station platform. It is on the S. side of the station building, 2 feet 4 inches from the wall and 17 feet 5 inches from each of the two corners. The letters B.M. have been cut on the S. face of the building to indicate the position of the bench-mark.	2029.42	In the sunken square cut for the purpose on the stone.
87	62.6	RAIL at PENDRA ROAD RAILWAY STATION. Opposite Booking Office.	2027.87	On the top of the rail.
88	62.6	G.T.S. at PENDRA ROAD RAILWAY STATION. Cut on coping of platform opposite Booking Office.	2029.19	Within the circle.
89	62.7	G.T.S. at PENDRA ROAD RAILWAY STATION. Cut on coping of platform at N. end.	2029.10	Ditto.
90	63.2	G.T.S. at PENDRA ROAD RAILWAY STATION. Cut on base of N. distant signal.	2019.88	Ditto.
91	64.4	G.T.S. at BRIDGE NO. 75. Cut on W. pillar cap of N. abutment of a 12-foot girder bridge, between telegraph posts Nos. $\frac{320}{2}$ and $\frac{320}{8}$.	1977.54	Ditto.
92	66.7	G.T.S. at RAIL-OPENING NO. 76. Cut on W. parapet wall of S. abutment of a 2-foot rail-opening, near telegraph post No. $\frac{322}{8}$.	1946.96	Ditto.
93	69.0	G.T.S. at RAIL-OPENING NO. 77. Cut on W. parapet wall of S. abutment of a 2-foot rail-opening, near Level-Crossing No. 39, and between telegraph posts Nos. $\frac{324}{14}$ and $\frac{324}{15}$.	1904.23	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
94	70.4	G.T.S. at BRIDGE NO. 78. Cut on coping at W. end of N. abutment of a 6-foot iron girder bridge, near telegraph post ○ B.M. No. $\frac{826}{8}$.	1862.42	Within the circle.
95	74.2	G.T.S. at KHAIRI RAILWAY STATION. Cut on coping of platform at S. end. ○ B.M.	1795.62	Ditto.
96	74.3	G.T.S. at KHAIRI RAILWAY STATION. This bench-mark is embedded in a block □ B.M. of masonry 3 feet cube, resting on a bed of concrete 1 foot thick and covered with earth, the surface of the stone being a few inches below the level of the station platform. It is at the S. side of the station building, 1 foot 9 inches from the wall, 14 feet 2 inches and 21 feet 5 inches respectively from the S.W. and S.E. corners, and 81 feet 10 inches from mile-post No. 330 from Nágpur. The letters B.M. have been cut on the S. face of the building to indicate the position of the bench-mark.	1795.10	In the sunken square cut for the purpose on the stone.
97	74.3	RAIL at KHAIRI RAILWAY STATION. Opposite Booking Office.	1794.23	On the top of the rail.
98	74.3	G.T.S. at KHAIRI RAILWAY STATION. Cut on coping of platform opposite Booking Office. ○ B.M.	1795.50	Within the circle.
99	74.3	G.T.S. at KHAIRI RAILWAY STATION. Cut on coping of platform at N. end. ○ B.M.	1795.27	Ditto.
100	74.9	G.T.S. at KHAIRI RAILWAY STATION. Cut on base of N. distant signal. ○ B.M.	1787.24	Ditto.
101	76.8	G.T.S. at BRIDGE NO. 81. Cut on coping of S.E. wing wall of N.E. abutment of a girder bridge of five 60-foot spans, near telegraph post No. $\frac{833}{10}$. ○ B.M.	1740.03	Ditto.
102	77.7	G.T.S. at BRIDGE NO. 82. Cut on W. plaster cap of N. abutment of a girder bridge of two 10-foot spans, near telegraph post No. $\frac{833}{9}$. ○ B.M.	1763.91	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
103	78.4	G.T.S. at BRIDGE NO. 83. Cut on W. pilaster cap of S. abutment of a girder bridge of three 20-foot spans, near telegraph post No. $\frac{334}{8}$.	1762.80	Within the circle.
104	79.2	G.T.S. at BRIDGE NO. 84. Cut on W. pilaster cap of N. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{335}{1}$, and $1\frac{1}{4}$ chains S. of mile-post No. 335 from Nágpur.	1770.65	Ditto.
105	80.1	G.T.S. at BRIDGE NO. 85. Cut on S.W. pilaster cap of N.W. abutment of a girder bridge of two 20-foot spans, near telegraph post No. $\frac{335}{14}$.	1749.18	Ditto.
106	80.5	G.T.S. at BRIDGE NO. 86. Cut on S.W. pilaster cap of N.W. abutment of a girder bridge of two 20-foot spans, between telegraph posts Nos. $\frac{336}{5}$ and $\frac{336}{6}$.	1736.99	Ditto.
107	81.5	G.T.S. at BRIDGE NO. 87. Cut on S.W. pilaster cap of N.W. abutment of a girder bridge of two 20-foot spans, between telegraph posts Nos. $\frac{337}{4}$ and $\frac{337}{5}$.	1737.61	Ditto.
108	82.8	G.T.S. at RAIL-OPENING NO. 88. Cut on coping at S.S.W. end of E.S.E. abutment of a 2-foot rail-opening, near telegraph post No. $\frac{338}{11}$.	1735.69	Ditto.
109	84.6	G.T.S. at BRIDGE NO. 90. Cut on S.S.W. pilaster cap of E.S.E. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{340}{7}$.	1691.10	Ditto.
110	85.1	G.T.S. at JAITHARI RAILWAY STATION. Cut on coping of platform opposite station building.	1690.81	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
111	85.1	RAIL at JAITHARI RAILWAY STATION. Opposite station building.	1689.69	On the top of the rail.
112	85.1	G.T.S. at JAITHARI RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 6 inches be- low the level of the station platform. It is at the S.E. side of the station building, 1 foot 9 inches from the wall, 13 feet 2 inches from each of the two corners, and 22 feet from the S corner pillar of the verandah. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.	1691.12	In the sunken square cut for the purpose on the stone.
113	85.7	G.T.S. at JAITHARI RAILWAY STATION. ○ B.M. Cut on base of N.W. distant signal.	1679.88	Within the circle.
114	92.5	G.T.S. at BRIDGE NO. 91. Cut on N. wing ○ wall of E. abutment of a girder bridge B.M. of seven 60-foot spans, near telegraph post No. $\frac{348}{6}$.	1561.72	Ditto.
115	93.6	G.T.S. at ANÚPPUR RAILWAY STATION. ○ B.M. Cut on coping of platform near E. end.	1586.26	Ditto.
116	93.6	G.T.S. at ANÚPPUR RAILWAY STATION. □ This bench-mark is embedded in a B.M. block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 6 inches below the level of the station platform. It is at the E. side of the station building, 2 feet from the wall, and 17 feet 8 inches from each of the two corners. The letters B.M. have been cut on the E face of the building to indicate the position of the bench-mark.	1586.26	In the sunken square cut for the purpose on the stone.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Ná Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
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Branch line to BHALUA G. T. SURVEY STATION.

$\frac{1}{116}$	103.2	<p>BHALUA G. T. SURVEY STATION, lat. $23^{\circ} 14' 0''$, long. $81^{\circ} 42' 0''$. This is a principal station of the Biláspur Meridional Series, and is situated on a small isolated hill, locally known as Bhalua Dongri, which rises about 200 feet above the level of the surrounding country. It is $2\frac{1}{2}$ miles W.N.W. of the large village of Rampur, about 1 mile E. of the River Son, and $8\frac{1}{2}$ miles N.N.W. of Anápur Railway Station on the Biláspur-Katni Branch of the Bengal-Nágar Railway; and appertains to the village of Bichua of the Kota Nigamant Zamin-dari, táuk Sahápur of the Rewah territories. The station consists of a solid masonry pillar, enclosed by a platform of stones and earth 14×16 feet and about $6\frac{1}{2}$ feet high, and contains two marks, the upper 40 feet above the lower which is engraved on the rock <i>in situ</i>. The azimuths and estimated distances of the circumjacent villages are: Bichua (new site) S., about $1\frac{1}{2}$ miles; Kham-raud $104^{\circ} 40'$, miles $1\frac{1}{5}$; and Atharna $299^{\circ} 25'$, miles $1\frac{1}{5}$.</p> <p><i>Note.</i>—The station, when visited by the Levelling Party, was found in good order, and the intersection of the grooves on the top of the protecting pillar, to which the height given in the next column refers, was found by direct measurement to be 10362 feet above a peg at the foot of the station platform, on which the levelling staff rested.</p>	1729*	This height refers to the intersection of the grooves on the top of the protecting pillar.
117	93.6	<p>G.T.S. at ANÓPPUR RAILWAY STATION. O Cut on coping of platform opposite the B.M. station building.</p>	1686.32	Within the circle.
118	93.6	<p>RAIL at ANÓPPUR RAILWAY STATION. Opposite station building.</p>	1685.06	On the top of the rail.
119	93.9	<p>G.T.S. at BRIDGE NO. 92. Cut on coping at O N. end of L. abutment of a 6-foot B.M. girder bridge, near level-crossing No. 56, and between telegraph posts Nos. $\frac{319}{12}$ and $\frac{319}{13}$.</p>	1685.64	Within the circle.
120	94.3	<p>G.T.S. at BRIDGE NO. 93. Cut on coping at O N. end of W. abutment of a girder B.M. bridge of three 40-foot spans over Chandas nadi and near telegraph post No. $\frac{350}{3}$.</p>	1682.29	Ditto.

* Correct to the nearest foot.


SECTION—BILĀSPUR TO KATNI.

Spirit Levelling from Bilāspur along the Branch line of the Bengal-Nāgpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Bilāspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
121	96.0	G.T.S. at BRIDGE NO. 94. Out on coping at O N.E. end of S.E. abutment of a girder B.M. bridge of three 60-foot spans, over Bakan nadi, and near telegraph post No. $\frac{851}{18}$.	1587.76	Within the circle,
122	97.0	G.T.S. at SLAB DRAIN NO. 95. Out on coping O at N.N.E. end of E.S.E. abutment B.M. of a drain of two 1-foot openings, near telegraph post No. $\frac{852}{14}$.	1615.40	Ditto,
123	97.9	G.T.S. at BRIDGE NO. 96. Out on N.N.E. O parapet of W.N.W. abutment of a B.M. girder bridge of three 40-foot spans, over Sathna nadi, and near telegraph post No. $\frac{853}{18}$.	1587.04	Ditto.
124	99.2	G.T.S. at BRIDGE NO. 97. Out on N.N.E. O pilaster cap of E.S.E. abutment of a B.M. 12-foot girder bridge, between telegraph posts Nos. $\frac{854}{18}$ and $\frac{855}{1}$, and near mile-post No. 855 from Nāgpur.	1617.05	Ditto,
125	100.0	G.T.S. at BRIDGE NO. 98. Out on N.E. O pilaster cap of N.W. abutment of a 20- B.M. foot girder bridge, near telegraph post No. $\frac{855}{15}$.	1622.83	Ditto,
126	101.1	G.T.S. at BRIDGE NO. 99. Out on N.E. O pilaster cap of S.E. abutment of a 20- B.M. foot girder bridge, near telegraph post No. $\frac{856}{17}$.	1616.36	Ditto,
127	102.5	G.T.S. at BRIDGE NO. 99A. Out on coping O at N.E. end of S.E. abutment of a 6- B.M. foot girder bridge, near telegraph post No. $\frac{858}{6}$.	1586.67	Ditto,
128	103.2	G.T.S. at BRIDGE NO. 100. Out on N.E. O pilaster cap of S.E. abutment of a 20- B.M. foot girder bridge, between telegraph posts Nos. $\frac{859}{2}$ and $\frac{859}{9}$.	1567.49	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
129	103.6	G.T.S. at CULVERT NO. 101. Cut on centre of coping on N.E. side of a 4-foot single-arch bridge, near telegraph post  B.M. No. $\frac{859}{9}$. (Railway bench-mark).	1555.94	Within the circle.
130	104.6	G.T.S. at BRIDGE NO. 102. Cut on coping at N. end of W. abutment of a girder bridge of four 40-foot spans, over Bagcha nadi, and near telegraph post No. $\frac{360}{9}$. O B.M.	1533.20	Ditto.
131	105.6	G.T.S. at BRIDGE NO. 103. Cut on N. pilaster cap of E. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{361}{9}$. O B.M.	1565.72	Ditto.
132	106.9	G.T.S. at BURHÁR RAILWAY STATION. Cut on coping of platform 65 feet S. of E. corner of the station building, and 51 feet 10 inches from embedded bench-mark No. 133 of this section. (Railway bench-mark). —O— ^ B.M.	1591.97	Ditto.
133	106.9	G.T.S. at BURHÁR RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 6 inches below the level of the station platform. It is at the S.E. side of the station building, 1 foot 8 inches from the wall, 13 feet 5 inches from each of the two corners and 22 feet 8 inches from the S.E. wooden post of the verandah. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark. □ B.M.	1592.08	In the sunken square cut for the purpose on the stone.
134	106.9	RAIL at BURHÁR RAILWAY STATION. Opposite centre of station.	1590.77	On the top of the rail.
135	106.9	G.T.S. at BURHÁR RAILWAY STATION. Cut on coping of platform opposite station building. (Railway bench-mark). V B.M.	1591.96	On the head of the arrow.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
186	107.2	G.T.S. at BRIDGE NO. 104. Cut on N.N.E. O B.M. pillar cap of E.S.E. abutment of a 10-foot single-arch bridge, near telegraph post No. $\frac{863}{1}$.	1591.43	Within the circle.
187	108.8	G.T.S. at BRIDGE NO. 105. Cut on coping at N.E. end of N.W. abutment of a B.M. girder bridge of two 12-foot spans, between telegraph posts Nos. $\frac{864}{11}$ and $\frac{304}{12}$.	1543.67	Ditto.
188	109.0	G.T.S. at BRIDGE NO. 106. Cut on coping at N.E. end of N.W. abutment of a B.M. 12-foot girder bridge, near telegraph post No. $\frac{804}{16}$.	1536.16	Ditto.
189	110.0	G.T.S. at BRIDGE NO. 107. Cut on N. B. & M. parapet of W. abutment of a girder bridge of one 80-foot span, between telegraph posts Nos. $\frac{805}{16}$ and $\frac{305}{16}$. (Railway bench-mark).	1502.74	On the head of the arrow.
140	110.7	G.T.S. at BRIDGE NO. 108. Cut on N.E. B. & M. parapet of N.W. abutment of a girder bridge of three 60-foot spans, over Sarpa nála, and near telegraph post No. $\frac{360}{11}$. (Railway bench-mark).	1495.16	Ditto.
141	111.8	G.T.S. at BRIDGE NO. 109. Cut on N. pillar cap of W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{367}{4}$.	1514.96	Within the circle.
142	111.8	G.T.S. at BRIDGE NO. 110. Cut on N. pillar cap of W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{867}{19}$.	1580.74	Ditto.
143	112.7	G.T.S. at BRIDGE NO. 111. Cut on N. pillar cap of E. abutment of a 6-foot girder bridge, near telegraph post No. $\frac{868}{10}$.	1563.51	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
144	114.7	G.T.S. at BRIDGE NO. 112. Cut on coping ○ at N.E. end of N.W. abutment of a B. M. 10-foot single-arch bridge, between tele- graph posts Nos. $\frac{370}{11}$ and $\frac{370}{12}$. (Railway bench- mark).	1612.84	Within the circle.
145	118.2	G.T.S. at BRIDGE NO. 113. Cut on No. 49 stone cap at E.N.E. end of N.N.W. B.M. abutment of a 40-foot girder bridge at mile-post No. 374. (Railway bench-mark).	1531.80	Ditto.
146	118.6	G.T.S. at BRIDGE NO. 114. Cut on S.W. ○ pilaster cap of N.W. abutment of a B.M. 6-foot single-arch bridge, near telegraph post No. $\frac{374}{18}$, and $1\frac{1}{2}$ chains W. of S.E. distant signal of Sáhdol Railway Station.	1526.89	Ditto.
147	119.2	RAIL at SÁHDOL RAILWAY STATION. Opposite Home Semaphore.	1517.21	On the top of the rail.
148	119.2	G.T.S. at SÁHDOL RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being $6\frac{1}{2}$ inches below the level of the station platform. It is at the S.E. side of the station building, 2 feet 1 inch from the wall, and $17\frac{1}{2}$ feet from each of the two cor- ners. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.	1518.62	In the sunken square cut for the purpose on the stone.
149	120.2	G.T.S. at BRIDGE NO. 116. Cut on coping ○ at N. end of W. abutment of a girder B.M. bridge of four 50-foot spans, near telegraph post No. $\frac{376}{20}$, and at mile-post No. 376 from Nágpur.	1499.65	Within the circle.
150	121.0	G.T.S. at BRIDGE NO. 117. Cut on coping ○ at N. end of E. abutment of a 12-foot B.M. girder bridge, near telegraph post No. $\frac{376}{13}$.	1504.24	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
151	121.6	G.T.S. at BRIDGE NO. 118. Cut on coping O at N N E end of W.N.W. abutment of a B.M. girder bridge of three 60 foot spans, over Anar nála, and near telegraph post No. $\frac{377}{8}$.	1498.72	Within the circle.
152	122.0	G.T.S. at BRIDGE NO. 119. Cut on N.N.E. O pilaster cap of W.N.W. abutment of a B.M. 20-foot girder bridge, near telegraph post No. $\frac{377}{16}$.	1493.77	Ditto.
153	123.0	G.T.S. at DRAIN NO. 120. Cut on N.E. para- O pet of a 1-foot single-arch drain, near B.M. telegraph post No. $\frac{378}{16}$.	1523.85	Ditto.
154	123.2	G.T.S. at BRIDGE NO. 121. Cut on N. pilas- O ter cap of W. abutment of a 20 foot B.M. girder bridge, near telegraph post No $\frac{379}{1}$, and 3 chains W. of mile-post No. 379 from Nágpur.	1529.44	Ditto.
155	124.1	G.T.S. at BRIDGE NO. 122. Cut on N pilas- O ter cap of W. abutment of a 12 foot B.M. girder bridge, between telegraph posts Nos. $\frac{379}{16}$ and $\frac{379}{17}$, and about 6 chains E of mile- post No. 380 from Nágpur. (Railway bench-mark No. 42).	1544.96	Ditto.
156	124.8	G.T.S. at BRIDGE NO. 124. Cut on coping O at N.N.W. end of W.S.W. abutment of B.M. a 20-foot girder bridge, near telegraph post No. $\frac{380}{11}$.	1552.40	Ditto.
157	125.2	G.T.S. at CULVERT NO. 125. Cut on coping O at N.N.W. end of W.S.W. abutment of B.M. a culvert of four 3-foot cuts between telegraph posts Nos. $\frac{380}{18}$ and $\frac{381}{3}$, and about 2 chains W.S.W. of mile post No. 381 from Nágpur.	1674.16	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
158	126.2	G.T.S. at BRIDGE NO. 127. Cut on coping at N.E. end of N.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{882}{1}$, and 2.25 chains N.W. of mile-post No. 882 from Nágpur. O B.M.	1589.46	Within the circle.
159	126.4	G.T.S. at BRIDGE NO. 128. Cut on E.N.E. pilaster cap of S.S.E. abutment of a girder bridge of three 40-foot spans, over Basar nála, and between telegraph posts Nos. $\frac{882}{5}$ and $\frac{882}{6}$. O B.M.	1579.87	Ditto.
160	127.3	G.T.S. at BRIDGE NO. 129. Cut on N.N.E. cap of W.N.W. abutment of a 6-foot single-arch bridge, near telegraph post No. $\frac{883}{2}$. O B.M.	1611.32	Ditto.
161	128.1	G.T.S. at BRIDGE NO. 130. Cut on E.N.E. pilaster cap of S.S.E. abutment of a 20-foot girder bridge, about $1\frac{1}{2}$ chains S.S.E. of mile-post No. 884 from Nágpur. O B.M.	1621.67	Ditto.
162	128.5	G.T.S. at BRIDGE NO. 131. Cut on coping at N.E. end of N.W. abutment of a 6-foot single-arch bridge, near telegraph post No. $\frac{884}{9}$. O B.M.	1642.79	Ditto.
163	128.9	G.T.S. at BRIDGE NO. 132. Cut on E.N.E. pilaster cap of N.N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{884}{16}$. O B.M.	1657.83	Ditto.
164	129.2	G.T.S. at BRIDGE NO. 133. Cut on N.N.E. pilaster cap of W.N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{885}{2}$. O B.M.	1673.73	Ditto.
165	129.6	G.T.S. at CULVERT NO. 134. Cut on N.N.E. pilaster cap of W.N.W. abutment of a culvert of two 2-foot vents, near telegraph post No. $\frac{885}{8}$. O B.M.	1692.56	Ditto.

SECTION—BILĀSPUR to KATNI.

Spirit Levelling from Bilāspur along the Branch line of the Bengal-Nāgpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Bilāspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Station.
166	129.9	G.T.S. at BRIDGE NO. 135. Cut on N. pilaster cap of W. abutment of a 12-foot girder bridge, between telegraph posts O B.M. Nos. $\frac{885}{13}$ and $\frac{885}{14}$.	1710.14	Within the circle.
167	130.8	G.T.S. at BRIDGE NO. 136. Cut on coping at N. end of W. abutment of a 6-foot single-arch bridge, between telegraph posts Nos. $\frac{386}{3}$ and $\frac{386}{4}$.	1738.05	Ditto.
168	131.0	G.T.S. at BRIDGE NO. 137. Cut on N.E. pilaster cap of N.W. abutment of a 20 foot girder bridge, between telegraph posts Nos. $\frac{886}{16}$ and $\frac{886}{17}$.	1717.46	Ditto.
169	131.9	G.T.S. at BRIDGE NO. 138. Cut on N.E. pilaster cap of N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{887}{13}$.	1690.47	Ditto.
170	132.1	RAIL at GHUNGHUTI RAILWAY STATION. Opposite centre of station.	1689.74	On the top of the rail.
171	132.1	G.T.S. at GHUNGHUTI RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 54 inches below the level of the station platform. It is at the S.E. side of the station building, 1 foot 9 inches from the wall, and 13 feet 8 inches from each of the two corners. The letters B.M. have been cut on the S.E. face of the building to indicate the position of the bench-mark.	1690.84	In the sunken square cut for the purpose on the stone.
172	133.1	G.T.S. at GHUNGHUTI RAILWAY STATION. Cut on coping of platform in front of centre of station building.	1690.86	Within the circle.
173	132.4	G.T.S. at BRIDGE NO. 140. Cut on S.W. pilaster cap of N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{888}{5}$.	1689.82	Ditto.

SECTION—BILÁSPUR to KATNI.

*Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur.
Railway to Katni Junction.*

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
174	132.7	G.T.S. at BRIDGE NO. 141. Out on S.W. pilaster cap of N.W. abutment of a girder bridge of two 20-foot spans, near telegraph post No. $\frac{888}{11}$. O B.M.	1682.25	Within the circle.
175	133.0	G.T.S. at BRIDGE NO. 142. Out on S.W. pilaster cap of S.E. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{888}{15}$. O B.M.	1675.60	Ditto.
176	133.8	G.T.S. at BRIDGE NO. 143. Out on N.E. pilaster cap of N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{889}{5}$. O B.M.	1680.62	Ditto.
177	133.7	G.T.S. at BRIDGE NO. 144. Out on N.E. pilaster cap of N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{889}{12}$. O B.M.	1695.42	Ditto.
178	134.6	G.T.S. at BRIDGE NO. 145. Out on N. pilaster cap of W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{890}{9}$. O B.M.	1665.64	Ditto.
179	134.9	G.T.S. at BRIDGE NO. 146. Out on N. wing-wall of W. abutment of a girder bridge of three 40-foot spans, near telegraph post No. $\frac{890}{15}$. O B.M.	1656.27	Ditto.
180	135.4	G.T.S. at BRIDGE NO. 147. Out on coping at N.W. end of S.W. abutment of a 10-foot single-arch bridge, between telegraph posts Nos. $\frac{891}{6}$ and $\frac{891}{7}$. O B.M.	1647.26	Ditto.
181	136.6	G.T.S. at BRIDGE NO. 148. Out on N. pilaster cap of W. abutment of a 20-foot girder bridge, between telegraph posts Nos. $\frac{892}{10}$ and $\frac{892}{11}$. V O B. — M. (Railway bench-mark).	1614.67	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
182	186·8	G.T.S. at BRIDGE NO. 149. Cut on coping at S. end of E. abutment of a 10-foot single-arch bridge, between telegraph posts Nos. $\frac{892}{13}$ and $\frac{893}{14}$.	1607·85	Within the circle.
188	187·8	G.T.S. at BRIDGE NO. 151. Cut on coping at N.W. end of S.W. abutment of a 40-foot girder bridge, near telegraph post No. $\frac{893}{16}$.	1567·47	Ditto.
184	138·4	G.T.S. at BRIDGE NO. 152. Cut on N.N.E. pilaster cap of W.N.W. abutment of a girder bridge of three 20-foot spans, between telegraph posts Nos. $\frac{891}{6}$ and $\frac{891}{7}$.	1541·51	Ditto.
185	139·5	G.T.S. at BRIDGE NO. 153. Cut on N.W. pilaster cap of S.W. abutment of a girder bridge of two 40-foot spans, near telegraph post No. $\frac{895}{10}$.	1522·61	Ditto.
186	142·2	RAIL at BIRSINGPUR RAILWAY STATION. Opposite centre of station.	1508·98	On the top of the rail.
187	142·2	G.T.S. at BIRSINGPUR RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 6 inches below the level of the station platform. It is at the E. side of the station building 1 foot 8½ inches from the wall, and 17 feet 8 inches from each of the two corners. The letters B.M. have been cut on the E. face of the building to indicate the position of the bench-mark.	1510·73	In the sunken square cut for the purpose on the stone.
188	142·2	G.T.S. at BIRSINGPUR RAILWAY STATION. Cut on coping of platform opposite centre of station building.	1510·20	Within the circle.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
189	144.1	G.T.S. at BRIDGE NO. 155 A. Cut on coping ○ at S.W. end of S.E. abutment of a 6- B.M. foot girder bridge, near telegraph post No. $\frac{400}{2}$.	1468.04	Within the circle.
190	144.6	G.T.S. at BRIDGE NO. 156. Cut on coping ○ at S.S.W. end of E.S.E. abutment of a B.M. 12-foot girder bridge, near telegraph post No. $\frac{400}{19}$.	1452.91	Ditto,
191	144.9	G.T.S. at BRIDGE NO. 157. Cut on N. end ○ of W. pier of a girder bridge of 4 spans, B.M. one of 160 feet, one of 160 feet and two of 40 feet each, over Johila River, and near telegraph post No. $\frac{400}{16}$.	1445.81	Ditto.
192	145.1	G.T.S. at BRIDGE NO. 158. Cut on S.S.W. ○ pilaster cap of E.S.E. abutment of a B.M. 10-foot single-arch bridge, between tele- graph posts Nos. $\frac{401}{2}$ and $\frac{401}{3}$.	1457.23	Ditto,
193	145.8	G.T.S. at BRIDGE NO. 159. Cut on S.S.W. ○ pilaster cap of E.S.E. abutment of a B.M. girder bridge of two 12-foot spans, between telegraph posts Nos. $\frac{401}{13}$ and $\frac{401}{14}$.	1480.30	Ditto,
194	146.9	G.T.S. at BRIDGE NO. 160. Cut on coping ○ at S.S.W. end of E.S.E. abutment of a B.M. girder bridge, near telegraph post No. $\frac{402}{5}$.	1484.80	Ditto,
195	147.7	G.T.S. at BRIDGE NO. 161. Cut on W.S.W. ○ pilaster cap of S.S.E. abutment of a B.M. 20-foot girder bridge, between telegraph posts Nos. $\frac{403}{12}$ and $\frac{403}{13}$.	1459.78	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling staff.
196	147.0	G.T.S. at BRIDGE. Cut on E.N.E. wing-wall of N.N.W. abutment of a girder bridge of 3 spans, one of 10 feet and two of 20 feet each, over Gurchhatar nálp, and near telegraph post No. $\frac{403}{17}$.	1150.71	Within the circle.
197	149.3	G.T.S. at BRIDGE NO. 164. Cut on E.N.E. pilaster cap of N.N.W. abutment of a 6-foot girder bridge, near telegraph post No. $\frac{403}{5}$.	1466.95	Ditto.
198	150.2	G.T.S. at BRIDGE NO. 165. Cut on coping at W. end of S. abutment of a girder bridge of three 40-foot spans, near telegraph post No. $\frac{406}{2}$.	1446.22	Ditto.
199	150.9	G.T.S. at BRIDGE NO. 166. Cut on coping at S.W. end of N.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{406}{16}$.	1468.32	Ditto.
200	152.0	G.T.S. at BRIDGE NO. 167. Cut on coping at S.W. end of S.E. abutment of a 6-foot single-arch bridge, near telegraph post No. $\frac{407}{19}$, and 1 chain S.E. of mile-post No. 408 from Nágpur.	1503.54	Ditto.
201	152.7	G.T.S. at KÁRKELI RAILWAY STATION. □ This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 4 inches below the level of the station platform. It is on the S.E. side of the station building, 2 feet from the wall, 18 feet 8 inches from the E. corner of the building, and 23 feet from the S. corner pillar of the verandah. The letters B.M. have been cut on the S.E. face of the building, to indicate the position of the bench-mark.	1520.22	In the sunken square cut for the purpose on the stone.
202	152.8	G.T.S. at KÁRKELI RAILWAY STATION. ○ Cut on coping of platform in front of station building. B.M.	1520.13	Within the circle.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section,	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
203	152·8	RAIL at KÁRKELI RAILWAY STATION. In front of centre of station.	1518·60	On the top of the rail.
204	153·4	G.T.S. at BRIDGE NO. 168. Cut on coping ○ at S.S.W. end of W.N.W. abutment of B.M. a 20-foot girder bridge, near telegraph post No. $\frac{409}{7}$.	1523·74	Within the circle.
205	155·5	G.T.S. at BRIDGE NO. 169. Cut on coping ○ at S.W. end of N.W. abutment of a 12- B.M. foot girder bridge, near telegraph post No. $\frac{411}{10}$.	1557·63	Ditto.
206	156·1	G.T.S. at BRIDGE NO. 170. Cut on coping ○ at S.W. end of N.W. abutment of a B.M. 20-foot girder bridge, near telegraph post No. $\frac{412}{2}$.	1550·62	Ditto.
207	156·6	G.T.S. at BRIDGE NO. 171. Cut on S.W. ○ pilaster cap of N.W. abutment of a B.M. 10-foot single-arch bridge, near tele- graph post No. $\frac{412}{12}$.	1538·67	Ditto.
208	157·0	G.T.S. at RAIL OPENING NO. 172. Cut on ○ coping at S.W. end of S.E. abutment of B.M. a rail opening of two 3-foot vents, near telegraph post No. $\frac{413}{1}$, and $\frac{1}{2}$ chain W. of mile- post No. 413 from Nágpur,	1528·92	Ditto.
209	157·6	G.T.S. at BRIDGE NO. 173. Cut on S.W. ○ pilaster cap of N.W. abutment of a 20- B.M. foot girder bridge, near telegraph post No. $\frac{413}{12}$.	1508·79	Ditto.
210	158·6	G.T.S. at BRIDGE NO. 174. Cut on S.S.W. ○ pilaster cap of E.S.E. abutment of a B.M. girder bridge of two 20-foot spans, be- tween telegraph posts Nos. $\frac{414}{12}$ and $\frac{414}{13}$.	1492·58	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nággpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
211	159.7	G.T.S. at BRIDGE NO. 175. Cut on S.W. wing-wall of S.E. abutment of a girder bridge of two 100-foot spans, over Umrárá nála, and near telegraph post No. $\frac{415}{11}$.	1501.42	Within the circle.
212	160.5	G.T.S. at UMARIA RAILWAY STATION. \square This bench-mark is embedded in a block of masonry 8 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 4 inches below the level of the platform. It is within the railed enclosure of the Home Semaphore at the S.E. corner, 11 feet 5 inches and 29 feet respectively from the S.W. and S.E. corners of the Station Master's Office, 17 feet 8 inches from the S.E. corner of the Booking Office and 7 feet from the letters B.M. cut on the stone base of the Home Semaphore to indicate the position of the bench-mark.	1521.07	In the sunken square cut for the purpose on the stone.

Branch line to UMARIA COLLIERY.

$\frac{1}{212}$	160.0	G.T.S. \circ at UMARIA OVER-BRIDGE. Cut on coping of N.W. stoppage wall under over-bridge, on the railway line to the Colliery camp. (Railway bench-mark No. 48).	1506.79	Within the circle.
$\frac{2}{212}$	161.2	G.T.S. \circ at CULVERT NO. 177. Cut on N.W. parapet of a culvert with 2 vents, on the railway line to the Colliery camp. (Railway bench-mark No. 49).	1498.21	Ditto.
$\frac{3}{212}$	161.4	G.T.S. \circ at CHANDHAI NÁLA BRIDGE. Cut on coping of masonry on S.E. side of a 12-foot girder bridge.	1496.42	Ditto.
$\frac{4}{212}$	161.5	G.T.S. \circ at UMARIA INSPECTION BUNGALOW. Cut on pavement of verandah, 10½ feet and 29½ feet respectively from the N.W. and N.E. corners of the bungalow, and 1 foot from the wall.	1498.60	Ditto.
$\frac{5}{212}$	161.6	G.T.S. \circ at MANAGER'S HOUSE, UMARIA COLLIERY. Cut on brick pavement of verandah at S.W. corner of building.	1497.06	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
$\frac{6}{212}$	161·6	○ G.T.S.B.M. at NO. 3 PIT. Cut on plinth at S. corner of engine-house.	1479·48	Within the circle,
$\frac{7}{212}$	161·9	○ G.T.S. ○ B.M. at NO. 4 PIT. Cut on stone floor inside engine-house, 4 feet from the door-way.	1476·29	Ditto.
$\frac{8}{212}$	162·5	○ G.T.S. ▲ B.M. at BRIDGE. Cut on N.N.W. end of W.S.W. abutment of a girder bridge of one 12-foot span, on the railway line to Pits Nos. 7 and 8. (Colliery bench-mark).	1467·71	Ditto.
$\frac{9}{212}$	162·8	○ G.T.S. B.M. at NO. 8 PIT. Cut on formation level plinth in centre of front or S.W. arch of engine-bed.	1476·40	Ditto.
$\frac{10}{212}$	163·4	○ ▲ G.T.S. B.M. at OATESGANJ WELL. Cut on a stone embedded in parapet wall of a circular well, 6 feet in diameter, about 5 chains S. of the village. (Colliery bench-mark).	1452·18	Ditto.
$\frac{11}{212}$	163·5	○ B.M. G.T.S. at UMRAR RIVER ROCK. Cut on a large rock <i>in situ</i> on W. or left bank of the River, about 18 chains N.N.W. of No. 9 Pit.	1412·18	Ditto.
213	160·5	RAIL at UMARIA RAILWAY STATION. In front of centre of station.	1518·24	On the top of the rail,
214	160·5	○ G.T.S. B.M. at UMARIA RAILWAY STATION. Cut on coping of platform in front of centre of station building.	1521·17	Within the circle.
215	161·6	47 ○ B.M. at BRIDGE NO. 178. Cut on E.N.E. pilaster cap of N.N.W. abutment of a 12-foot girder bridge, between telegraph posts Nos. $\frac{417}{18}$ and $\frac{417}{14}$. (Railway bench-mark No. 47).	1496·55	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Sta.
210	162.2	G.T.S. at CULVERT NO. 179. Cut on centre of E.N.E. parapet of a culvert of one 8-foot arch, near telegraph post No. $\frac{418}{6}$ (Railway bench-mark No. 46).	1488.80	Within the circle.
217	162.7	G.T.S. at BRIDGE NO. 180. Cut on E.N.E. pillar cap of N.W. abutment of a girder bridge of three spans, one of 60 feet and two of 40 feet each, near telegraph post No. $\frac{418}{16}$ (Railway bench-mark No. 45).	1464.57	Ditto.
218	161.6	G.T.S. at BRIDGE NO. 182. Cut on coping at N.E. end of N.W. abutment of a 10-foot girder bridge, near telegraph post No. $\frac{420}{18}$ (Railway bench-mark No. 43).	1610.86	Ditto.
219	161.9	G.T.S. at BRIDGE NO. 184. Cut on coping at N.E. end of N.W. abutment of a girder bridge of three 12-foot spans, near telegraph post No. $\frac{421}{1}$, and about 1 chain N.W. of mile-post No. 421 from Nágpur. (Railway bench-mark No. 41).	1608.37	Ditto.
220	166.0	G.T.S. at BRIDGE NO. 186. Cut on coping at N.E. end of N.W. abutment of a girder bridge of three spans, one of 40 feet and two of 20 feet each, near telegraph post No. $\frac{422}{2}$ (Railway bench-mark No. 39).	1459.09	Ditto.
221	166.6	G.T.S. at CULVERT NO. 187. Cut on centre of N.E. parapet of a 3-foot arch culvert, between telegraph posts Nos. $\frac{422}{18}$ and $\frac{423}{14}$ (Railway bench-mark No. 38).	1474.02	Ditto.
222	166.8	G.T.S. at CULVERT NO. 188. Cut on centre of N.E. parapet of a 4-foot arch culvert, near telegraph post No. $\frac{422}{18}$ (Railway bench-mark No. 37).	1474.20	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
223	167·5	G.T.S. at CULVERT NO. 189. Cut on centre of N.E. parapet of a 4-foot arch 86 ○ B.M. culvert, near telegraph post No. $\frac{423}{12}$ (Railway bench-mark No. 86).	1450·22	Within the circle.
224	168·8	G.T.S. at BRIDGE NO. 190. Cut on N.E. pilaster cap of N.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{424}{17}$ (Railway bench-mark No. 85).	1421·04	Ditto
225	168·7	G.T.S. at CULVERT NO. 191. Cut on centre of N.E. parapet of a 4-foot arch 84 ○ B.M. culvert, near telegraph post No. $\frac{424}{15}$ (Railway bench-mark No. 84).	1421·85	Ditto.
226	169·7	G.T.S. at BRIDGE NO. 192. Cut on N.E. pilaster cap of N.W. abutment of a 40-foot girder bridge, near telegraph post No. $\frac{425}{18}$ (Railway bench-mark No. 83).	1385·06	Ditto.
227	171·8	G.T.S. at BRIDGE NO. 193. Cut on E.N.E. pilaster cap of N.N.W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{427}{15}$	1326·06	Ditto.
228	172·2	G.T.S. at CHANDIA RAILWAY STATION. □ This bench-mark is embedded in a block of concrete 1 foot thick, and covered with earth, the surface of the stone being 6 inches below the level of the station platform. It is within and at the W.N.W. corner of the railed enclosure of the Home Semaphore, 23 feet 3 inches from the S.S.W. corner of the station building, 22 feet 3 inches from the centre of the passage, 11 feet from the centre of the doorway of the Booking Office and 3 feet W.S.W. of the letters B.M. cut on the stone base of the Home Semaphore to indicate the position of the bench-mark.	1322·95	In the sunken square cut for the purpose on the stone.
229	172·2	RAIL at CHANDIA RAILWAY STATION. In front of passage.	1320·22	On the top of the rail.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
230	172.2	G.T.S. at OHANDIA RAILWAY STATION. O B.M. Cut on coping of platform in front of passage.	1323.45	Within the circle.
231	172.6	G.T.S. at BRIDGE NO. 191. Cut on centre O B.M. of N.E. parapet of a 6-foot single-arch bridge, near telegraph post No. $\frac{428}{14}$.	1314.66	Ditto.
232	173.4	G.T.S. at BRIDGE NO. 195. Cut on N.E. O B.M. pilaster cap of N.W. abutment of a girder bridge of two 10-foot spans, near telegraph post No. $\frac{429}{10}$.	1303.69	Ditto.
233	174.4	B. O. M. at LEVEL CROSSING NO. 89. Cut on top of a stone embedded upright in masonry at Level Crossing, near telegraph post No. $\frac{430}{11}$.	1278.79	Ditto.
234	174.8	G.T.S. at BRIDGE NO. 196. Cut on N.N.E. 29 O wing-wall of W.N.W. abutment of a B.M. girder bridge of 6 spans, 4 of 100 feet each, 1 of 80 feet and 1 of 40 feet, over Mahánnadi River, near telegraph post No. $\frac{430}{17}$. (Railway bench-mark No. 29).	1271.83	Ditto.
235	175.1	G.T.S. at BRIDGE NO. 197. Cut on centre 28 O of N.W. parapet of a 10-foot single-arch bridge, near telegraph post No. $\frac{431}{4}$. (Railway bench-mark No. 28).	1280.29	Ditto.
236	176.0	G.T.S. at BRIDGE NO. 198. Cut on N.E. O pilaster cap of N.W. abutment of a B.M. girder bridge of three 40-foot spans, near telegraph post No. $\frac{432}{2}$.	1291.60	Ditto.
237	177.6	G.T.S. at BRIDGE NO. 199. Cut on centre 26 O of N.E. parapet of N.W. abutment B.M. of a 12-foot girder bridge, between telegraph posts Nos. $\frac{437}{14}$ and $\frac{433}{16}$. (Railway bench-mark No. 26).	1351.60	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
238	178·3	G.T.S. at BRIDGE NO. 200. Cut on N.N.W. O 25 pilaster cap of W.S.W. abutment of a B.M. girder bridge of two 10-foot spans, near telegraph post No. $\frac{434}{8}$. (Railway bench-mark No. 25).	1360·60	Within the circle.
239	179·4	G.T.S. at BRIDGE NO. 201. Cut on N.E. O 24 parapet of a bridge of one 8-foot arch, B.M. near telegraph post No. $\frac{435}{10}$. (Rail- way bench-mark No. 24).	1379·68	Ditto.
240	179·7	G.T.S. at BRIDGE NO. 202. Cut on N.E. O 23 pilaster cap of N.W. abutment of a B.M. girder bridge of 3 spans, 1 of 40 feet and 2 of 20 feet each, between telegraph posts Nos. $\frac{435}{11}$ and $\frac{435}{15}$. (Railway bench-mark No. 23).	1378·31	Ditto.
241	180·6	G.T.S. at BRIDGE NO. 204. Cut on E.N.E. O 21 pilaster cap of N.N.W. abutment of a B.M. girder bridge of 3 spans, 1 of 10 feet and 2 of 20 feet each, near telegraph post No. $\frac{436}{14}$. (Railway bench-mark No. 21).	1357·60	Ditto.
242	180·8	G.T.S. at BRIDGE NO. 205. Cut on N.E. O pilaster cap of N.W. abutment of a B.M. 12-foot girder bridge, near telegraph post No. $\frac{436}{18}$ and 3½ chains S.E. of mile-post No. 437 from Nágpur.	1359·72	Ditto.
243	181·3	G.T.S. at BRIDGE NO. 206. Cut on N.N.E. O 19 pilaster cap of W.N.W. abutment of B.M. a girder bridge of three 12-foot spans, near telegraph post No. $\frac{437}{6}$. (Railway bench- mark No. 19).	1370·72	Ditto.
244	181·4	G.T.S. at BRIDGE NO. 206 A. Cut on N.N.E. O end of W.N.W. abutment of a 6-foot B.M. girder bridge, near telegraph post No. $\frac{437}{12}$.	1376·73	Ditto.

SECTION—BILÁSPUR TO KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
215	181.9	G.T.S. at BRIDGE NO. 207. Cut on N.E. parapet of a 6-foot arch bridge, near 18 O telegraph post No. $\frac{438}{1}$. (Railway B.M. bench-mark No. 18).	1367.00	Within the circle.
246	182.4	G.T.S. at BRIDGE NO. 208. Cut on N.E. pier cap of N.W. abutment of a 17 O girder bridge of 3 spans, one of 80 feet B.M. and two of 40 feet each, near telegraph post No. $\frac{438}{10}$. (Railway bench-mark No. 17).	1347.21	Ditto.
247	182.7	G.T.S. at RUPAUND RAILWAY STATION. □ This bench-mark is embedded in a block B.M. of masonry 8 feet cube, resting on a bed of concrete 1 foot thick, and covered with earth, the surface of the stone being 6½ inches below the level of the station platform. It is inside and at the W. corner of the railed enclosure of the Home Semaphore, 2½ feet from the S.S.W. corner of the station building, 23 feet 8 inches from the centre of the passage, 18½ feet S. of the centre of the doorway of the Booking Office and 8 feet S.W. of the letters B.M. cut on the base of the Home Semaphore to indicate the position of the bench-mark.	1850.85	In the sunken square on for the purpose on the stone.
248	182.7	RAIL at RUPAUND RAILWAY STATION. In front of passage.	1848.59	On the top of the rail.
249	182.7	G.T.S. at RUPAUND RAILWAY STATION. Cut on coping of platform in front of O passage. B.M.	1851.60	Within the circle.
250	183.7	G.T.S. at BRIDGE NO. 209. Cut on N.N.E. parapet of a single-arch bridge, near 16 O telegraph post No. $\frac{439}{16}$. (Railway B.M. bench-mark No. 16).	1366.56	Ditto.
251	183.8	G.T.S. at BRIDGE NO. 210. Cut on N.N.E. parapet of a bridge of one 8-foot arch, 15 O near telegraph post No. $\frac{439}{19}$, and 2 B.M. chains E.S.E. of mile-post No. 440 from Nágpur. (Railway bench-mark No. 16).	1370.49	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
252	184.7	G.T.S. at BRIDGE NO. 211. Cut on N.N.E. 14 B.O.M. pilaster cap of N.N.W. abutment of a 40-foot girder bridge, near telegraph post No. $\frac{440}{16}$ (Railway bench-mark No. 14).	1335.00	Within the circle.
253	185.4	G.T.S. at BRIDGE NO. 212. Cut on N.E. 13 O end of N.W. abutment of a girder B.M. bridge of 3 spans, one of 60 feet and two of 20 feet each, near telegraph post No. $\frac{441}{13}$ (Railway bench-mark No. 18).	1371.13	Ditto.
254	186.0	G.T.S. at BRIDGE NO. 213. Cut on centre 12 O of N. parapet of a bridge of two 8-foot arches, near telegraph post No. $\frac{442}{3}$ (Railway bench-mark No. 12).	1367.63	Ditto.
255	187.0	G.T.S. at BRIDGE NO. 214. Cut on N. 11 O pilaster cap of W. abutment of a 20-foot girder bridge, near telegraph post No. $\frac{443}{4}$ (Railway bench-mark No. 11).	1381.16	Ditto.
256	187.8	G.T.S. at BRIDGE NO. 215. Cut on E.N.E. 10 O pilaster cap of N.N.W. abutment of a 12-foot girder bridge, near telegraph post No. $\frac{443}{17}$ (Railway bench-mark No. 10).	1357.91	Ditto.
257	188.4	G.T.S. at BRIDGE NO. 216. Cut on N.E. 9 O pilaster cap of N.W. abutment of a girder bridge of three 12-foot spans, near telegraph post No. $\frac{444}{11}$ (Railway bench-mark No. 9).	1349.29	Ditto.
258	188.7	G.T.S. at BRIDGE NO. 217. Cut on centre 8 O of N.E. parapet of a 6-foot single-arch bridge, near telegraph post No. $\frac{444}{17}$ (Railway bench-mark No. 6).	1340.86	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Sta.
259	189·8	G.T.S. at BRIDGE NO. 218. Cut on N.E. 7 O parapet of a bridge of one 8-foot B.M. arch, near telegraph post No. $\frac{445}{8}$ (Railway bench-mark No. 7).	1329·78	Within the circle.
260	189·7	G.T.S. at BRIDGE NO. 219. Cut on N.E. 6 O parapet of a bridge of one 8-foot arch, B.M. near telegraph post No. $\frac{146}{16}$ (Rail- way bench-mark No. 6).	1810·95	Ditto.
261	190·8	G.T.S. at BRIDGE NO. 220. Cut on N.E. O pilaster cap of N.W. abutment of a B.M. girder bridge of three 10-foot spans, between telegraph posts Nos. $\frac{446}{9}$ and $\frac{146}{10}$ (Railway bench-mark No. 5).	1317·09	Ditto.
262	192·7	⁴ G.T.S. at BRIDGE NO. 221. Cut on N.E. end O of N.W. abutment of a girder bridge B.M. of three spans, one of 60 feet and two of 20 feet each, near telegraph post No. $\frac{446}{15}$ (Railway bench-mark No. 4).	1268·15	Ditto.
263	195·5	G.T.S. at BRIDGE NO. 222. Cut on cop- 3 O ing at N.N.E. end of W.N.W. abut- B.M. ment of a girder bridge of three spans, one of 60 feet and two of 20 feet each, near telegraph post No. $\frac{451}{14}$ (Railway bench-mark No. 3).	1218·15	Ditto.
264	196·1	G.T.S. at BRIDGE NO. 223. Cut on coping O at E. end of N. abutment of a 12-foot B.M. girder bridge, near telegraph post No. $\frac{452}{6}$	1248·51	Ditto.
265	196·2	G.T.S. at BRIDGE NO. 224. Cut on N. end O of E. parapet of a bridge of one 15-foot B.M. arch, common to both the Bengal-Ná- pur and East Indian Railways and numbered 360 on the latter line. It is opposite telegraph post No. $\frac{171}{17}$ of the East Indian Railway line, and 20 chains S. of Katni Railway Station.	1250·09	Ditto.

SECTION—BILÁSPUR to KATNI.

Spirit Levelling from Biláspur along the Branch line of the Bengal-Nágpur Railway to Katni Junction.

No. in Section.	Approximate Distance in Miles from Biláspur.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
266	196·6	G.T.S. at KATNI RAILWAY STATION. Cut on coping of platform of the Bengal-Nágpur Railway, 21 feet 11 inches from the dead-stop wall.	1254·28	Within the circle.
267	196·6	RAIL at KATNI RAILWAY STATION (E. I. R.Y.). Opposite Telegraph Office.	1251·01	On the top of the rail.
268	196·6	G.T.S. at KATNI RAILWAY STATION (E. I. R.Y.). Cut on coping of E platform of East Indian Railway line, in front of Telegraph Office.	1254·08	Within the circle.
269	196·7	G.T.S. at MURWÁRA (KATNI) TRAVELLERS BUNGALOW. Cut on pavement of front or N verandah to the right or W. of second doorway from east, and 1½ feet from the wall.	1258 62	Ditto.
270	196·7	G.T.S. at MURWÁRA (KATNI) TRAVELLERS BUNGALOW. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete, and covered with earth, the surface of the stone being 6 inches below the level of the ground. It is 1½ feet 5 inches from the N.E. corner of the plinth of the E. pillar of the front or N. verandah, 29 feet 11 inches from the plinth at the S.E. corner of the building, 10 feet 9 inches from the centre of the door-way at the E. side, and 6 feet 2 inches from the letters B.M. which have been cut on the E. face of the building near the N.E. corner, to indicate the position of the bench-mark.	1256 89	In the sunken square cut for the purpose on the stone.

POONA:

18th July, 1900.

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H. L. CROSTHWAIT, Lieut., R.E.,

In charge Tidal and Levelling Operations.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
1	0.0	G.T.S. at KATNI RAILWAY STATION (L. I. Ry.). Cut on coping of E. platform of B.M. East Indian Railway line, in front of Telegraph Office.	1254.08	Within the circle.
2	0.1	G.T.S. at KATNI RAILWAY STATION (L. I. Ry.). Cut on N. end of E. platform.	1254.01	Ditto.
3	1.0	G.T.S. at BRIDGE NO. 318. Cut on E. parapet of an arch bridge, with one opening of 10-foot span, near telegraph post No. $\frac{170}{6}$.	1230.19	Ditto.
4	1.7	G.T.S. at BRIDGE NO. 345. Cut on E. parapet of S. abutment of a girder bridge, with three openings of 70-foot span, near telegraph post No. $\frac{169}{12}$.	1231.50	Ditto.
5	2.1	G.T.S. at BRIDGE NO. 341. Cut on E. parapet of S. abutment of a girder bridge, with one opening of 110-foot span, near telegraph post No. $\frac{169}{3}$.	1232.64	Ditto.
6	3.4	G.T.S. at BRIDGE NO. 342. Cut on E. parapet of an arch bridge, with two openings of 10-foot span, near telegraph post No. $\frac{167}{20}$.	1240.25	Ditto.
7	1.6	G.T.S. at BRIDGE NO. 341. Cut on E. parapet of an arch bridge, with two openings of 20-foot span, near telegraph post No. $\frac{166}{17}$.	1265.97	Ditto.
8	6.8	G.T.S. at BRIDGE NO. 340. Cut on E. parapet of a stone bridge, with two openings of 2-foot span, near telegraph post No. $\frac{161}{21}$.	1272.81	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
9	7.8	G.T.S. at BRIDGE NO. 339. Cut on N. end of E. parapet of an arch bridge, with five openings of 15-foot span, near telegraph post No. $\frac{163}{9}$. O B.M.	1250.98	Within the circle.
10	8.9	G.T.S. at BRIDGE NO. 338. Cut on E. parapet of an arch bridge, with one opening of 8-foot span, near telegraph post No. $\frac{162}{11}$. O B.M.	1264.61	Ditto.
11	10.2	G.T.S. at BRIDGE NO. 336. Cut on E. parapet of an arch bridge, with one opening of 10-foot span, near telegraph post No. $\frac{161}{1}$. O B.M.	1293.78	Ditto.
12	10.6	RAIL, at JUKEHI RAILWAY STATION. Opposite Booking Office.	1300.52	On the top of the rail.
13	10.7	G.T.S. at JUKEHI RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet 4 inches square and 3 feet in depth, resting on a bed of concrete, and covered with earth, the surface of the stone being 4 inches below the level of the ground. It is at the W. side of the third class Waiting Shed opposite the Station building, 23 feet 1 inch and 34 feet 2 inches respectively from the S.W. and N.W. corners of the plinth of the shed, and 14 feet 3 inches from the letters B.M. cut on the back wall to indicate the position of the bench-mark. O B.M.	1301.72	In the sunken square cut for the purpose on the stone.
14	10.7	G.T.S. at JUKEHI RAILWAY STATION. Cut on coping of platform opposite Booking Office. O B.M.	1303.44	Within the circle.
15	12.0	G.T.S. at BRIDGE NO. 332. Cut on S. end of E. parapet of an arch bridge, with three openings of 10-foot span, near telegraph post No. $\frac{159}{4}$. O B.M.	1279.43	Ditto.
16	12.5	G.T.S. at BRIDGE NO. 330. Cut on S. end of E. parapet of an arch bridge, with three openings of 6-foot span, near telegraph post No. $\frac{168}{17}$. O B.M.	1272.96	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Sta.
17	13.5	G.T.S. at BRIDGE NO. 827. Cut on D. parapet of an arch bridge, with one opening of 10-foot span, near telegraph post O B.M. No. $\frac{167}{18}$.	1267.10	Within the circle.
18	14.0	G.T.S. at BRIDGE NO. 823. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, between telegraph posts O B.M. Nos. $\frac{167}{8}$ and $\frac{167}{9}$.	1264.57	Ditto.

Branch line to AMÚA G. T. SURVEY STATION.

$\frac{1}{18}$	16.6	AMÚA G. T. SURVEY STATION, lat. 23° 59' 56", long. 80° 31' 44". This is a principal station of the Calcutta Longitudinal Series—observed at in 1827, 1831, 1861 and 1865—and is situated in the lands of the village of Amúa which lies $1\frac{1}{2}$ miles N.W. of the station, in the Maihar State of the Baghelkhand Agency, Central India. It is on the southernmost extremity of the Kaimúr range and on the boundary between the Jubbulpore District and Maihar State. The encamping ground of Sabhaganj, on the high road from Jubbulpore to Mirzapur, is distant about 3 miles to the N.W., and Jakchi Railway Station lies 4 miles W.S.W. The station is marked by a circle and dot (⊙) engraved on a stone embedded flush with the surface of the platform and placed perpendicularly over a similar stone at the base. The upper mark was used on the original as well as the revised triangulation of the Calcutta Longitudinal Series. <i>Note.</i> —The station, when visited by the Levelling party, was found in good preservation and protected by a covering pile of stones and earth, 10 feet in diameter and 10 feet high, which was re-erected on the completion of the connection of the upper mark with the Spirit Levelling.	2120.95	The height refers to the upper mark.
19	14.2	G.T.S. at BRIDGE NO. 824. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, near telegraph post No. O B.M. $\frac{167}{8}$.	1262.28	Within the circle.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
20	15.0	G.T.S. at BRIDGE NO. 321. Cut on N. end of E. parapet of an arch bridge, with three openings of 10-foot span, near telegraph post No. $\frac{156}{8}$. O B.M.	1257.95	Within the circle.
21	15.9	G.T.S. at BRIDGE NO. 318. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, between telegraph posts Nos. $\frac{155}{10}$ and $\frac{155}{11}$. O B.M.	1249.60	Ditto.
22	16.7	G.T.S. at BRIDGE NO. 315. Cut on E. parapet of an arch bridge, with two openings of 5-foot span, near telegraph post No. $\frac{154}{14}$. O B.M.	1242.37	Ditto.
23	17.4	G.T.S. at BRIDGE NO. 312. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, near telegraph post No. $\frac{153}{17}$. O B.M.	1235.58	Ditto.
24	18.6	G.T.S. at BRIDGE NO. 308. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, between telegraph posts Nos. $\frac{152}{16}$ and $\frac{152}{16}$. O B.M.	1225.93	Ditto.
25	19.3	G.T.S. at BRIDGE NO. 305. Cut on S. end of E. parapet of an arch bridge, with two openings of 10-foot span, near telegraph post No. $\frac{151}{21}$. O B.M.	1219.78	Ditto.
26	20.1	G.T.S. at BRIDGE NO. 301. Cut on E. parapet of an arch bridge with two openings of 15-foot span, between telegraph posts Nos. $\frac{151}{6}$ and $\frac{151}{6}$. O B.M.	1215.49	Ditto.
27	21.0	G.T.S. at BRIDGE NO. 297. Cut on E. parapet of an arch bridge with two openings of 10-foot span, near telegraph post No. $\frac{150}{6}$. O B.M.	1210.49	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maithar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
28	21.9	G.T.S. at BRIDGE NO. 293. Cut on E. parapet of an arch bridge with one opening of 15-foot span, near telegraph post O B.M. No. $\frac{149}{8}$	1210.18	Within the circle.
29	22.5	G.T.S. at BRIDGE NO. 291. Cut on E. parapet of an arch bridge with one opening of 8-foot span, near telegraph post O B.M. No. $\frac{148}{18}$	1207.86	Ditto.
30	22.8	G.T.S. at AMDÁRA RAILWAY STATION. O B.M. Cut on coping at S. end of W. platform.	1211.61	Ditto.
81	22.9	G.T.S. at AMDÁRA RAILWAY STATION. □ This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete, and covered with earth, the surface of the stone being 2 inches below the level of the ground. It is at the back of the Station 8½ feet from the terminal telegraph post, 28 feet 6 inches N. of the base of the W. stone pillar, 63 feet W. of the base of the N. stone pillar and 25 feet from the second stone pillar counting from W. corner of the building. The letters B.M. have been engraved on this pillar to indicate the position of the bench-mark.	1209.26	In the sunken square cut for the purpose on the stone.
32	22.9	G.T.S. at AMDÁRA RAILWAY STATION. O B.M. Cut on coping of platform opposite Booking and Telegraph Office.	1211.44	Within the circle.
83	22.9	RAIL at AMDÁRA RAILWAY STATION. Opposite Booking and Telegraph Office.	1208.49	On the top of the rail.
84	23.2	G.T.S. at BRIDGE NO. 289. Cut on E. parapet of an arch bridge with one opening of 30-foot span, near telegraph post O B.M. No. $\frac{148}{1}$	1210.18	Within the circle.
85	23.9	G.T.S. at BRIDGE NO. 287. Cut on E. parapet of an arch bridge with one opening of 80-foot span, near telegraph post O B.M. No. $\frac{147}{7}$	1201.47	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
36	21.7	G.T.S. at BRIDGE NO. 285. Cut on S. abutment of a girder bridge, with one opening of 20-foot span, between telegraph posts Nos. $\frac{116}{12}$ and $\frac{146}{13}$. O B.M.	1191.37	Within the circle.
37	25.4	G.T.S. at BRIDGE NO. 283. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, near telegraph post No. $\frac{145}{18}$. O B.M.	1185.51	Ditto.
38	26.8	G.T.S. at BRIDGE NO. 279. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, between telegraph posts Nos. $\frac{144}{8}$ and $\frac{144}{9}$. O B.M.	1187.18	Ditto.
39	27.7	G.T.S. at BRIDGE NO. 277. Cut on E. parapet of an arch bridge, with three openings of 12-foot span, near telegraph post No. $\frac{143}{18}$. O B.M.	1183.47	Ditto.
40	28.4	G.T.S. at BRIDGE NO. 274. Cut on E. parapet of an arch bridge with three openings of 20-foot span, near telegraph post No. $\frac{142}{21}$. O B.M.	1176.62	Ditto.
41	29.5	G.T.S. at BRIDGE NO. 272. Cut on E. parapet of an arch bridge, with one opening of 12-foot span, near telegraph post No. $\frac{141}{18}$. O B.M.	1169.59	Ditto.
42	30.3	G.T.S. at BRIDGE NO. 271. Cut on E. parapet of an arch bridge with one opening of 80-foot span, near telegraph post No. $\frac{141}{1}$. O B.M.	1172.04	Ditto.
43	30.8	B. O. M. at BHADANPUR RAILWAY STATION. Cut on base of Home Semaphore.	1173.49	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
44	30.8	G.T.S. at BHADANPUR RAILWAY STATION. This bench-mark is embedded in a block of masonry 3 feet cube, resting on a bed of concrete, and covered with earth, the surface of the stone being flush with the ground. It is on low ground N N E of the Station building, 60 feet 8 inches E.N.E. of the E corner and 79 feet E of the N corner of the Station Master's quarters, 102 feet N N E of the N. corner of the Station building, 99 feet from the nearest rail, and 21 feet 5 inches S.E. of platform of Station well, on which the letters B.M. have been engraved to indicate the position of the bench-mark.	1164.78	In the sunken square cut for the purpose on the stone
45	31.0	G.T.S. at BRIDGE NO 270. Cut on E. parapet of an arch bridge, with one opening of 20-foot span, near telegraph post No. $\frac{140}{7}$	1171.70	Within the circle.
46	33.2	G.T.S. at BRIDGE NO 269. Cut on E. parapet of an arch bridge, with one opening of 15-foot span, near telegraph post No. $\frac{138}{3}$	1169.27	Ditto.
47	34.6	G.T.S. at BRIDGE NO. 268. Cut on N. end of E. parapet of an arch bridge, with three openings of 65-foot span, near telegraph post No. $\frac{136}{17}$	1178.83	Ditto.
48	35.8	G.T.S. at BRIDGE NO 266. Cut on E. parapet of an arch bridge, with three openings of 10-foot span, between telegraph posts Nos. $\frac{136}{21}$ and $\frac{180}{1}$	1164.76	Ditto.
49	36.8	G.T.S. at BRIDGE NO. 263. Cut on E. parapet of an arch bridge, with one opening of 5-foot span, near telegraph post No. $\frac{134}{20}$	1165.28	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
50	37.4	G.T.S. at BRIDGE NO. 260. Cut on E. parapet of an arch bridge, with three openings of 20-foot span, near telegraph post O B.M. No. $\frac{133}{21}$.	1152.78	Within the circle.
51	38.2	G.T.S. at BRIDGE NO. 259. Cut on E. parapet of an arch bridge, with one opening of 20-foot span, near telegraph post O B.M. No. $\frac{133}{2}$.	1148.86	Ditto.
52	38.7	B. O. M. at MAIHAR RAILWAY STATION. Cut on base of S. distant signal.	1146.87	Ditto.
53	39.0	G.T.S. at BRIDGE NO. 258. Cut on E. cap of N. abutment of a girder bridge, with one opening of 8-foot span, 15 chains S. of Maihar Railway Station. O B.M.	1142.78	Ditto.
54	39.2	G.T.S. at MAIHAR RAILWAY STATION. Cut on S. end of E. platform. O B.M.	1145.42	Ditto.
55	39.2	G.T.S. at MAIHAR RAILWAY STATION. □ This bench-mark is embedded in a block of masonry 3 feet 4 inches square and 3 feet in depth, and covered with earth, the surface of the stone being 6 inches below the level of the ground. It is at the N.E. corner of the back verandah of the Station building, 3 feet 2 inches S. of the N. wall of the verandah, 4 feet 4 inches from the corner of the verandah, and 3 feet W. of the W. wall of the building, on which the letters B.M. have been engraved to indicate the position of the bench-mark. B.M.	1144.72	In the sunken square cut for the purpose on the stone.

Branch line to MAIHAR G. T. SURVEY STATION.

$\frac{1}{55}$	40.8	G.T.S. at MONUMENT, LILJI RIVER. Cut on stone coping at N. opening of an octagonal monument, the largest of three, on the N. bank of the Lilji river, on the road from Maihar to village Rampur, and about 6 chains W. of Mahadeo temple on the S. bank of the river. B. O. M.	1126.07	Within the circle.
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SECTION—KATNI TO ALLAHABAD.

*Spirit Levelling from Katni along the East Indian Railway to Maihar, th
along the main road vid Rewah to Allahabad.*

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level	Position of Leveling Sta.
<u>2</u> <u>56</u>	44.5	MAIHAR G. T SURVEY STATION, lat 24° 17' 0", long 80° 16' 14". This is a principal station of the Amur Meridional series, and is situated in the lands of the village of Kahanpur in the Maihar State, Baghelkhand Agency, Central India. It stands on the eastern extremity of Banphar hill of the Bhaur range, at a distance of about 2 miles to the N.W. of the town of Maihar. The station is marked by a circle and dot (⊙) engraved on a stone embedded flush with the surface of the platform which is 14 feet in diameter and 2 feet high. It is protected by a pile of stones and earth about 8 feet in diameter at base and 8 feet high. <i>Note.</i> —the station when visited by the Levelling Party was found in good order and the mark ⊙ flush with the surface of the platform was connected	1091.06	This height refers to upper mark.
56	40.4	B.O.M. at MILESTONE NO 99 from JUBBULPORE. Cut on top of milestone.	1106.93	Within the circle.
57	41.4	B.O.M. at MILESTONE NO. 100 from JUBBULPORE. Cut on top of milestone.	1092.46	Ditto.
58	42.8	G.T.S. O.B.M. at BRIDGE Cut on S end of W. parapet of an arch bridge with five openings, over Ions river, and 18 chains S of milestone No. 101.	1087.48	Ditto.
59	48.5	B.O.M. at MILESTONE NO 102 from JUBBULPORE. Cut on top of milestone.	1062.48	Ditto.
60	44.5	B.O.M. at MILESTONE NO 103 from JUBBULPORE. Cut on top of milestone	1111.65	Ditto.
61	45.5	B.O.M. at MILESTONE NO. 104 from JUBBULPORE. Cut on top of milestone.	1131.92	Ditto.
62	46.5	B.O.M. at MILESTONE NO 105 from JUBBULPORE. Cut on top of milestone.	1140.11	Ditto.
63	47.8	B.O.M. at MILESTONE NO. 106 from JUBBULPORE. Cut on top of milestone.	1140.92	Ditto.
64	48.5	B.O.M. at MILESTONE NO 107 from JUBBULPORE Cut on top of milestone.	1153.99	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
65	49·5	G.T.S. at BRIDGE NO. 134. Cut on S. parapet of a bridge, with two openings, opposite milestone No. 108, and near Nadam hamlet. ○ B.M.	1175·81	Within the circle.
66	50·3	G.T.S. at BRIDGE NO. 135. Cut on S. parapet of a bridge, with one opening, 15 chains W. of milestone No. 109. ○ B.M.	1178·75	Ditto.
67	50·9	G.T.S. at BRIDGE NO. 136. Cut on S.E. parapet of a bridge, with one opening, 80·50 chains N.E. of milestone No. 109. ○ B.M.	1177·00	Ditto.
68	52·5	B. O M. at MILESTONE NO. 111 from JUB-BULPORE. Cut on top of milestone.	1187·89	Ditto.
69	52·8	G.T.S. at BRIDGE NO. 137. Cut on S.E. parapet of N.E. abutment of a bridge, with three openings of 10-foot span, over <i>Jhirua nala</i> between <i>Maihar</i> and <i>Rewah</i> States. ○ B.M.	1128·56	Ditto.
70	53·5	B. O M. at MILESTONE NO. 112 from JUB-BULPORE. Cut on top of milestone.	1187·79	Ditto.
71	54·3	G.T.S. at AMARPATAN TRAVELLERS' BUNGALOW. This bench-mark is embedded in a block of masonry 8½ feet cube and covered with earth, the surface of the stone being 4 inches below the level of the ground. It is 36½ feet from the N. corner and 16½ feet from the E. corner of the building, 25 feet from the centre of the S. door of the E. room, and 6 feet from the E. corner pillar of the verandah, on which the letters B.M. have been engraved to indicate the position of the bench-mark. □ B.M.	1156·92	In the sunken square cut for the purpose on the stone.
72	54·4	B. O M. at MILESTONE NO. 113 from JUB-BULPORE. Cut on top of milestone.	1154·12	Within the circle.
73	55·6	B. O M. at MILESTONE NO. 114 from JUB-BULPORE. Cut on top of milestone.	1160·40	Ditto.
74	56·4	B. O M. at MILESTONE NO. 115 from JUB-BULPORE. Cut on top of milestone.	1160·89	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
75	57.5	B. O. M. at MILESTONE NO. 116 from JUB-BULPORE. Cut on top of milestone.	1111.35	Within the circle.
76	58.5	B. O. M. at MILESTONE NO. 117 from JUB-BULPORE. Cut on top of milestone.	1119.98	Ditto.
77	59.6	B. O. M. at MILESTONE NO. 118 from JUB-BULPORE. Cut on top of milestone.	1146.22	Ditto.
78	60.6	B. O. M. at MILESTONE NO. 119 from JUB-BULPORE. Cut on top of milestone.	1147.40	Ditto.
79	61.6	B. O. M. at MILESTONE NO. 120 from JUB-BULPORE. Cut on top of milestone.	1129.57	Ditto.
80	62.6	B. O. M. at MILESTONE NO. 121 from JUB-BULPORE. Cut on top of milestone.	1177.10	Ditto.
81	64.9	B. O. M. at BRIDGE. Cut on plinth of S. parapet of an arch bridge, with one opening, 30 chains N. of milestone No. 123.	1157.09	Ditto.
82	65.6	B.O.M. at MILESTONE NO. 124 from JUB-BULPORE. Cut on top of milestone.	1152.24	Ditto.
83	66.4	B.O.M. at BRIDGE. Cut on plinth of S. parapet of an arch bridge, with one opening, 10 chains S. of milestone No. 125.	1129.99	Ditto.
84	66.6	B.O.M. at MILESTONE NO. 125 from JUB-BULPORE. Cut on top of milestone.	1125.29	Ditto.
85	67.1	G.T.S. at MAUHARI KATRA. This bench-mark is embedded in a block of masonry B.M. 3½ feet cube, on the N. side of the road from Maihar to Rewah, 8 51 chains from the Police chauri (station), 1 21 chains from the three or four huts which constitute the village of Katni, and 39 feet S.E. of the village well. A head-stone 1½ feet high, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	1120.81	In the sunken square cut for the purpose on the stone.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
86	67.6	B.O.M. at MILESTONE NO. 126 from JUBBULPORE. Cut on top of milestone.	1121.68	Within the circle.
87	68.4	O at BRIDGE. Cut on S.E. parapet of a G.T.S. bridge, with one opening, 17½ chains B.M. S.W. of milestone No. 127.	1108.28	Ditto.
88	68.6	B.O.M. at MILESTONE NO. 127 from JUBBULPORE. Cut on top of milestone.	1114.29	Ditto.
89	69.5	O at BRIDGE. Cut on S.E. parapet of B.M. an arch bridge, with one opening, 6 chains S.W. of milestone No. 128.	1106.94	Ditto.
90	70.6	B.O.M. at MILESTONE NO. 129 from JUBBULPORE. Cut on top of milestone.	1101.45	Ditto.
91	70.7	O at BRIDGE. Cut on N.W. parapet of B.M. an arch bridge, with one opening, 6 chains E. of milestone No. 129.	1101.00	Ditto.
92	71.6	O at MILESTONE NO. 130 from JUBBULPORE. Cut on top of milestone.	1076.15	Ditto.
93	71.9	G.T.S. Δ at BRIDGE. Cut on E. parapet B.M. No. of a bridge, with one opening, on the road from Satna near its junction with the road from Jubbulpore to Rewah.	1071.42	On the head of the arrow.
94	71.9	B.M. No. at BRIDGE. Cut on N.W. parapet G.T.S. ∇ of a bridge, with one opening, 5½ chains N.E. of the junction of the road from Satna with that from Jubbulpore to Rewah.	1070.33	Ditto.
95	73.0	B.M. No. at BRIDGE. Cut on S. parapet of G.T.S. ∇ an arch bridge, with one opening, 28½ chains E. of milestone No. 131.	1077.18	Ditto.
96	73.2	B.O.M. at MILESTONE. Cut on top of a milestone, 24 miles from Satna, and 11 miles from Govindgarh.	1082.27	Within the circle.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
97	78.8	B.M. No. at BRIDGE. Cut on S. parapet of G.T.S. V a bridge, with two openings, 11½ chains E. of milestone No. 24.	1087.07	On the head of the arrow.
98	78.9	G.T.S. at WELL. Cut on S. side of coping of circular platform of a paka well on the B.M. N. margin of the road from Jubbulpore, and 26 chains E. of milestone No. 132.	1073.44	Within the circle.
99	74.6	B.O.M. at MILESTONE NO. 133 from JUBBULPORE. Cut on top of milestone.	1067.44	Ditto.
100	75.5	B.M. No. at BRIDGE. Cut on S. parapet of G.T.S. V a bridge, with two openings, 32 chains W. of milestone No. 134.	1061.23	On the head of the arrow.
101	75.9	B.O.M. at MILESTONE NO. 134 from JUBBULPORE. Cut on top of milestone.	1060.69	Within the circle.
102	76.1	B.M. No. at BRIDGE. Cut on S. parapet of G.T.S. V an arch bridge, with one opening, 17½ chains E. of milestone No. 131.	1050.36	On the head of the arrow.
103	76.5	B.M. No. 58 at BRIDGE. Cut on S. parapet G.T.S. V of a bridge, with one opening, 10½ chains W. of milestone No. 135.	1040.85	Ditto.
104	76.8	B.M. No. 59 at BRIDGE. Cut on S.E. parapet V of a bridge, with two openings, 16 chains N.E. of milestone No. 135.	1021.85	Ditto.
105	76.9	G.T.S. at BĀBUPUR RĀMCHANDRAJI TEMPLE. This bench-mark is embedded in a block of masonry 3 feet cube and covered with earth, the surface of the stone being 4 inches below the level of the ground. It is 68 and 10 feet respectively from the N.E. and S.E. corners of the walled enclosure of the temple, 30½ feet from the centre of the entrance, and 4 feet from the E. wall of the temple. A head-stone 1 foot above ground, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	1015.80	In the sunken square cut for the purpose on the stone.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
106	77.7	G.T.S. Δ at BRIDGE NO. 61. Cut on S.E. B.M. No. parapet of a bridge, with two openings, over Chauda nala, and 4 chains N.E. of milestone No. 186.	994.81	On the head of the arrow,
107	78.6	B.M. No. ∇ at BRIDGE NO. 65. Cut on S.E. G.T.S. ∇ parapet of a bridge, with two openings, 9 chains S.W. of milestone No. 187.	995.55	Ditto.
108	78.6	B.O.M. at MILESTONE NO. 187 from JUB-BULPORE. Cut on top of milestone.	995.45	Within the circle.
109	79.8	O at BRIDGE. Cut on E guard-stone of B.M. S parapet of a bridge, with two openings, 2½ chains W. of milestone No. 188.	980.88	Ditto.
110	79.6	B.O.M. at MILESTONE NO. 188 from JUB-BULPORE. Cut on top of milestone.	978.86	Ditto.
111	80.8	G.T.S. at BRIDGE. Cut on S parapet of a bridge over Ghogar river, and 27 chains B.M. W. of milestone No. 189.	989.16	Ditto.
112	80.7	G.T.S. at REWAH COURT. Cut on second step from bottom on N. side of State O Court Offices, in front of the Treasury room.	977.94	Ditto.
113	81.8	G.T.S. at REWAH GUEST HOUSE This bench-mark is embedded in a block of B.M. masonry 3 feet cube and covered with earth, the surface of the stone being 5 inches below the level of the ground. It is 16 and 29½ feet respectively from the N.E. and N.W. corners of the Guest House, 22½ feet from the centre of the N. door, and 3 feet N. of the base of the N.E. pillar of the verandah, on which the letters B.M. have been engraved to indicate the position of the bench-mark.	950.98	In the sunken square cut for the purpose on the stone.
114	81.7	B.O.M. at MILESTONE NO. 140 from JUB-BULPORE. Cut on top of milestone.	992.42	Within the circle.
115	82.7	B.O.M. at MILESTONE NO. 141 from JUB-BULPORE. Cut on top of milestone.	1006.46	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
116	88.1	B. O. M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, 24 chains E. of milestone No. 141.	1012.61	Within the circle.
117	84.4	B. O. M. at BRIDGE. Cut on N. parapet of an arch bridge, with one opening, 26 chains W. of milestone No. 143.	1037.82	<i>Ditto</i>
118	84.7	B. O. M. at MILESTONE NO. 143 from JUBBULPORE. Cut on top of milestone.	1046.01	<i>Ditto.</i>
119	87.8	B. O. M. at MILESTONE NO. 146 from JUBBULPORE. Cut on top of milestone.	1083.70	<i>Ditto.</i>
120	88.3	O at BRIDGE. Cut on S.W. guard-stone B.M. of N.W. parapet of a bridge, with one opening, 33 chains S.W. of milestone No. 147.	1093.25	<i>Ditto.</i>
121	88.7	B. O. M. at MILESTONE NO. 147 from JUBBULPORE. Cut on top of milestone.	1094.62	<i>Ditto.</i>
122	88.8	O B.M. at BRIDGE NO. $\frac{1}{148}$. Cut on S.W. guard-stone of N.W. parapet of a bridge, with one opening, 5 chains N.E. of milestone No. 147.	1082.53	<i>Ditto.</i>
123	89.8	O B.M. at BRIDGE. Cut on W. guard-stone of S. parapet of an arch bridge, with one opening, 6 chains N.E. of milestone No. 148.	1059.05	<i>Ditto.</i>
124	91.2	G.T.S. at RAIPUR MAHÁDEO TEMPLE. This bench-mark is embedded in a block of masonry 34 feet cube and covered with earth, the surface of the stone being 6 inches below the level of the ground. It is 12½ feet from the octagonal platform of a puka well close to and on the W. side of the temple, 19 feet from the centre of the doorway of the temple, 16½ feet from the N.E. corner, and 8½ feet from the N.W. corner where the letters B.M. have been engraved to indicate the position of the bench-mark. The temple is situated near the N.E. corner of Lal Bahadur's garden, about 8 chains from the road to Allahabad.	1040.22	In the sunken square cut for the purpose on the stone.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
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Branch line to BURWA G. T. SURVEY STATION.

$\frac{1}{124}$	94.5	BURWA G. T. SURVEY STATION, lat. $24^{\circ} 33' 14''$, long. $81^{\circ} 31' 17''$. This is a Principal Station of the Karara Meridional Series—observed at in 1843—and is situated on an isolated hill, $\frac{1}{4}$ a mile E. of Burwa and 2.6 miles S.E. of Raipur; in the lands of the village of Burwa, Rewah State, Baghelkhand Agency, Central India. The distances and bearings of the surrounding villages are:—Buradi 0.8 mile, S.S.W.; Barhail 1.1 miles, N.; and Gurgaon 2.2 miles, E. The station consists of a huge pile of large stones, the ruins of a Hindu temple (Sarda-devi), and is marked with the usual circle and dot (○) engraved on a large slab about the centre of the pile of stones. <i>Note.</i> —The station, when visited by the Levelling Party, was found apparently intact, and the mark was connected.	1809.79	On the mark-stone.
125	92.0	G.T.S. at BRIDGE. Cut on centre guard-stone of S. parapet of an arch bridge, with one opening, 21 chains E. of milestone No. 150. ○ B.M.	1020.80	Within the circle.
126	94.7	B. O. M. at BRIDGE. Cut on a projecting stone at E. end of N. parapet of an arch bridge, with three openings, 6 chains E. of milestone No. 153.	1019.55	Ditto.
127	95.6	○ at BRIDGE. Cut on S.W. guard-stone B.M. of N.W. parapet of an arch bridge, with one opening, about 13 chains S.W. of milestone No. 154.	1018.75	Ditto.
128	96.6	○ at BRIDGE. Cut on a guard-stone of B.M. S.E. parapet of an arch bridge, with one opening, 17 chains S.W. of milestone No. 155.	1013.51	Ditto.
129	97.0	○ at BRIDGE. Cut on S.W. guard-stone B.M. of N.W. parapet of an arch bridge, with one opening, 16 chains N.E. of milestone No. 155.	1017.26	Ditto.
130	97.2	G.T.S. at BRIDGE NO. $\frac{2}{156}$. Cut on N.W. parapet of an arch bridge, with one opening, $2\frac{1}{2}$ chains W. of a <i>paka</i> well. ○ B.M.	1021.79	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
131	98.6	G.T.S. at BRIDGE. Cut on N. parapet of an arch bridge, with three openings, over B.M. Bhogar nala, and 15 chains W. of milestone No. 157.	1012.23	Within the circle.
132	99.8	G.T.S. at MANGAWAN TRAVELLERS BUNGALOW. Cut on lowest step of stairway in front of W. room.	1037.69	Ditto.
133	99.8	G.T.S. at MANGAWAN TRAVELLERS BUNGALOW. This bench mark is a B.M. bedded in a block of masonry, 3½ feet cube and covered with earth, the surface of stone being 4 inches below the level of the ground. It is at the N.E. corner of the building, 3 feet N. of the N.E. pillar of the verandah, 14½ feet E. of the steps in front of the E. room, and 13 feet from the centre of the doorway of the E. room, and 13 feet and 45½ feet respectively from the N.E. and N.W. corners of the building. A head-stone, 1 foot 10 inches above ground, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	1037.18	In the sunken square cut for the purpose on the stone.
134	101.4	B. O. M. at BRIDGE. Cut on N.W. parapet G.T.S. of a bridge, with three openings, 4 chains N. of Sengri River.	993.16	Within the circle.
135	103.2	B. O. M. at STONE, PAKARIAR NADI. Cut on a stone slab embedded upright in the ground on the W. side of the road and about 10 chains from N. bank of Pakariar nadi.	989.12	Ditto.
136	105.0	B. O. M. at BRIDGE. Cut on plinth of N. parapet of an arch bridge, with one opening, opposite Mari village.	1019.75	Ditto.
137	106.8	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with one opening, about 20 chains N. of Purwa village.	1050.20	Ditto.
138	107.1	B. O. M. at BRIDGE. Cut on plinth of N.W. parapet of an arch bridge, with one opening, about 20 chains N. of Gangeo-ka-Chauki.	1056.92	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
139	107·6	B. O. M. at BRIDGE. Cut on plinth of S.E. parapet of an arch bridge, with one opening, about 9 chains S.W. of Saman village.	1049·61	Within the circle.
140	108·9	B. O. M. at BRIDGE. Cut on plinth of W. parapet of an arch bridge, with one opening, about $\frac{1}{4}$ mile W. of Tikari village.	1068·57	Ditto.
141	109·6	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with one opening, over Bada-Talao-ka-nāla, about 15 chains W. of Tikuri village.	1068·31	Ditto.
142	110·4	B. O. M. at BRIDGE. Cut on plinth of N.W. parapet of an arch bridge, with one opening, over Turka nāla.	1071·57	Ditto.
143	111·9	B. O. M. at BRIDGE. Cut on plinth of W. parapet of an arch bridge, with one opening, over Bagahia nāla, and about 10 chains S.E. of Dhara-bibha village.	1082·79	Ditto.
144	112·5	B. O. M. at BRIDGE. Cut on plinth of W. parapet of an arch bridge, with one opening, over Harrai nāla.	1088·48	Ditto.
145	113·5	G.T.S. at GARII. This bench-mark is embedded in a block of masonry, 3 feet cube B.M. and covered with earth, the surface of the stone being 5 inches below the level of the ground. It is 1 chain 40 links E. of the road to Allahabad, near the S.W. corner of the hexagonal platform of a <i>paka</i> well in a garden W. of the village. The distances measured to the W. side of the well being, perpendicular outer edge, 41 feet; perpendicular inner edge, 114 feet; N. end, 104 feet; and S. end, 5 feet.	1110·10	In the sunken square cut for the purpose on the stone.
146	115·6	B. O. M. at BRIDGE. Cut on plinth of N.W. parapet of an arch bridge, with one opening, over Kangao nāla.	1118·65	Within the circle.
147	116·6	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with one opening, about $\frac{1}{4}$ mile N. of Agdal village, and 15 chains S. of Nawa Talao.	1139·63	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewa to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
148	118.3	B.M. at BRIDGE. Cut on plinth of W. parapet of a bridge, with three openings, over Rajhai nala.	1122.87	Within the circle.
149	118.9	B. O. M. at BRIDGE. Cut on plinth of W. parapet of a bridge, with three openings, about 15 chains S. of Katra village.	1108.71	Ditto.
150	119.3	G.T.S. at KATRA MAHÁDEO TEMPLE. This bench-mark is embedded in a block of masonry, 8 feet cube, with its upper surface 6 inches below the level of the ground and covered with earth. It is 17 feet E. of the E. margin of the road to Allahabad, 16½ feet from Bhairao Sonar's well, 17½ feet and 11½ feet respectively from the N.E. and N.W. corners of the temple, and 13½ feet from the centre of the doorway.	1126.74	In the sunken square cut for the purpose on the stone.
151	120.1	G.T.S. at BRIDGE. Cut on a stone slab embedded in N.W. parapet of an arch bridge, with one opening, over Ghog nadi, and about ¼ mile E. of the village of Ghama.	1097.81	Within the circle.
152	121.5	B. O. M. at BRIDGE. Cut on a projecting stone at N. end of E. parapet of an arch bridge, with three openings, over Gar nala.	1117.15	Ditto.
153	122.1	G.T.S. on ROCK <i>in situ</i> . Cut on a rock 20½ feet and 27½ feet respectively from the B.M. S. and N. ends of the E. parapet of an arch bridge, 23½ feet from the centre of the bridge, and about ¼ mile S.W. of Ladh village.	1167.85	Ditto.
154	123.0	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with three openings, over Jhiria nala.	1024.99	Ditto.
155	124.2	G.T.S. on ROCK <i>in situ</i> . Cut on a rock on E. margin of road, and 14 chains S.W. of Agad Mahádeo Temple.	1007.84	Ditto.
156	124.3	G.T.S. at MAHÁDEO TEMPLE. Cut on floor of verandah, at foot of extreme W. pillar, at N. entrance to temple on summit of Sohági Ghát.	978.68	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
157	125.2	B. O. M. at WALL. Cut on W. end of W. abutment of a retaining wall on S. side of a road between two hills, about 1 mile below Mahadeo Temple.	928.91	Within the circle.
158	126.7	G.T.S. at SONAGI CUSTOMS BUNGALOW. □ This bench-mark is embedded in a block of masonry, 3 feet cube, its surface being 34 inches below the level of the ground and covered with earth. It is at the N. side of the building, 28½ and 4½ feet respectively from the N.E. and N.W. corners, and 21½ feet from the centre of the front door. A head-stone, 1½ feet above ground, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	631.90	In the sunken square cut for the purpose on the stone.
159	128.3	B. O. M. at BRIDGE. Cut on plinth of N.W. parapet of an arch bridge, with five openings, over Khaila nāla, about three chains E. of a <i>paka</i> well, near Khatin village.	334.96	Within the circle.
160	129.9	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with one opening, about one mile S. of Tons River.	330.94	Ditto.
161	131.3	G.T.S. on ROCK <i>in situ</i> . Cut on a rock on E. margin of road, near Chāk village. ○ B.M.	331.01	Ditto.
162	132.0	G.T.S. BOUNDARY MARK. Cut on a boundary stone on the boundary between Rewah and Allahabad, on E. margin of the road, 166 feet S.E. of milestone inscribed "Rewah Boundary mile 26." ○ B.M.	329.06	Ditto.
163	132.8	G.T.S. at BRIDGE. Cut on S. guard-stone of E. parapet of a bridge, with one opening, about ¼ mile S. of milestone No. 26. ○ B.M.	331.91	Ditto.
164	133.6	B. O. M. at MILESTONE NO. 26 from ALLAHABAD. Cut on top of milestone.	340.31	Ditto.
165	134.0	○ B. M. at BRIDGE NO. $\frac{M. 25}{3}$. Cut on S. guard-stone of E. parapet of a bridge, with two openings, 3.60 chains N. of milestone No. 25.	357.11	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Revah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
148	118.3	D.M. at BRIDGE. Cut on plinth of W. parapet of a bridge, with three openings, over Rajhai nāla.	1122.87	Within the circle.
149	118.9	B. O. M. at BRIDGE. Cut on plinth of W. parapet of a bridge, with three openings, about 15 chains S. of Katra village.	1108.74	Ditto.
150	119.3	G.T.S. at KATRA MAHĀDEO TEMPLE. □ This bench-mark is embedded in a block B.M. of masonry, 8 feet cube, with its upper surface 6 inches below the level of the ground and covered with earth. It is 17 feet E. of the E. margin of the road to Allahabad, 16½ feet from Bhairao Sonai's well, 17½ feet and 11½ feet respectively from the N.E. and N.W. corners of the temple, and 18½ feet from the centre of the doorway.	1126.74	In the sunken square cut for the purpose on the stone.
151	120.1	G.T.S. at BRIDGE. Cut on a stone slab embedded in N.W. parapet of an arch B.M. bridge, with one opening, over Ghog nadl, and about ¼ mile E. of the village of Ghumn.	1007.81	Within the circle.
152	121.5	G.T.S. B. O. M. at BRIDGE. Cut on a projecting stone at N. end of E. parapet of an arch bridge, with three openings, over Gar nāla.	1117.15	Ditto.
153	122.1	G.T.S. on ROCK <i>in situ</i> . Cut on a rock 20½ feet and 27½ feet respectively from the B.M. S. and N. ends of the E. parapet of an arch bridge, 23½ feet from the centre of the bridge, and about ¼ mile S.W. of Lādh village.	1107.35	Ditto.
154	123.0	G.T.S. B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with three openings, over Jhiria nāla.	1024.99	Ditto.
155	124.2	G.T.S. on ROCK <i>in situ</i> . Cut on a rock on E. margin of road, and 1½ chains S.W. of B.M. Agad Mahādeo Temple.	1007.84	Ditto.
156	124.8	G.T.S. at MAHĀDEO TEMPLE. Cut on floor of verandah, at foot of extreme W. pillar, at N. entrance to temple on summit of Sohāgi Ghāt.	978.58	Ditto.

SECTION—KATNI. TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road via Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
157	125.2	B. O. M. at WALL. Cut on W. end of W. abutment of a retaining wall on S. side of a road between two hills, about 1 mile below Mahādeo Temple.	928.91	Within the circle.
158	126.7	G.T.S. at SOHĀGI CUSTOMS BUNGALOW. □ This bench-mark is embedded in a block B.M. of masonry, 3 feet cube, its surface being 8½ inches below the level of the ground and covered with earth. It is at the N. side of the building, 28½ and 4½ feet respectively from the N.E. and N.W. corners, and 21½ feet from the centre of the front door. A head-stone, 1½ feet above ground, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	681.90	In the sunken square cut for the purpose on the stone.
159	128.3	B. O. M. at BRIDGE. Cut on plinth of N.W. parapet of an arch bridge, with five openings, over Khatia nāla, about three chains E. of a <i>paka</i> well, near Khatia village.	334.96	Within the circle.
160	129.9	B. O. M. at BRIDGE. Cut on plinth of E. parapet of an arch bridge, with one opening, about one mile S. of Tons River.	380.94	Ditto.
161	131.3	G.T.S. on ROCK <i>in situ</i> . Cut on a rock on E. margin of road, near Chāk village. ○ B.M.	831.04	Ditto.
162	132.0	G.T.S. BOUNDARY MARK. Cut on a boundary stone on the boundary between Rewah and Allahabad, on E. margin of the road, 166 feet S.E. of milestone inscribed "Rewah Boundary mile 26." ○ B.M.	329.06	Ditto.
163	132.8	G.T.S. at BRIDGE. Cut on S. guard-stone of E. parapet of a bridge, with one opening, about ¼ mile S. of milestone No. 26. ○ B.M.	334.94	Ditto.
164	133.0	B. O. M. at MILESTONE NO. 26 from ALLAHABAD. Cut on top of milestone. ○	340.81	Ditto.
165	134.0	B. M. at BRIDGE NO. $\frac{M. 25}{3}$. Cut on S. guard-stone of E. parapet of a bridge, with two openings, 8.80 chains N. of milestone No. 25.	357.11	Ditto.

SECTION—KATNI TO ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	134.2	G.T.S. at SURWAL SARAI. This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 1 inch below the level of the ground and covered with earth. It is within the enclosure of the <i>sarai</i> and pound of Surwal village, 5 feet S.W. of the platform of a <i>paka</i> well, 29½ feet and 27 feet respectively from the N. and S. stone pillars of the gateway, and 25½ feet S.S.W. of a large pipal tree (the only one within the enclosure) to the N. of the well. A head-stone, 1½ feet above ground, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	350.00	In the sunken square cut for the purpose on the stone.
167	134.8	G.T.S. at BRIDGE NO. $\frac{M. 25}{1}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with two openings, about 19 chains S. of milestone No. 24.	339.02	Within the circle.
168	135.0	B.O.M. at MILESTONE NO. 24 from ALLAHABAD. Cut on top of milestone.	350.72	Ditto.
169	136.0	B.O.M. at MILESTONE NO. 23 from ALLAHABAD. Cut on top of milestone.	352.89	Ditto.
170	136.5	G.T.S. at BRIDGE NO. $\frac{M. 23}{1}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with three openings, over Garua nāla, 38 chains S. of milestone No. 22.	326.51	Ditto.
171	137.0	B.O.M. at MILESTONE NO. 22 from ALLAHABAD. Cut on top of milestone.	320.91	Ditto.
172	138.2	G.T.S. at BRIDGE NO. $\frac{M. 21}{1}$. Cut on centre B.M. of W. parapet of an arch bridge, with three openings, over Katha nāla, 18½ chains N. of milestone No. 21.	305.82	Ditto.
173	139.0	B.O.M. at MILESTONE NO. 20 from ALLAHABAD. Cut on top of milestone.	307.87	Ditto.

SECTION—KATNI TO ALLAHABAD.

spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road *vid* Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
174	139.7	G.T.S. at BRIDGE NO. $\frac{M. 20}{1}$. Cut on S. guard- ○ B.M. stone of W. parapet of a bridge, with one opening, 25½ chains S. of milestone No. 19.	308.97	Within the circle.
175	140.2	G.T.S. at BRIDGE NO. $\frac{M. 19}{2}$. Cut on guard- ○ B.M. stone of W. parapet of a bridge, with two openings, 16½ chains N. of milestone No. 19.	313.66	Ditto.
176	142.0	B. O M. at MILESTONE NO. 17 from ALLAHABAD. Cut on top of milestone.	318.79	Ditto.
177	142.6	G.T.S. at BRIDGE NO. $\frac{M. 17}{8}$. Cut on S. ○ B.M. guard-stone of W. parapet of a bridge, with one opening, 34 chains S. of milestone No. 16.	320.26	Ditto.
178	143.2	G.T.S. at BRIDGE NO. $\frac{M. 16}{2}$. Cut on S. ○ B.M. guard-stone of W. parapet of an arch bridge, with one opening, 14½ chains N. of milestone No. 16.	318.89	Ditto.
179	143.6	G.T.S. at MAHÁDEO TEMPLE, JARI. This □ bench-mark is embedded in a block of B.M. masonry, 3 feet cube, with its surface 2½ inches below the level of the ground and covered with earth. It is near Mahádeo Temple, 5½ feet and 6 feet respectively from the S. and W. corners of the platform, 4½ feet from the centre of the S.W. side of the platform, and 6½ feet from both the S. and W. corner stone pillars. A head-stone, with the letters B. M. engraved thereon, indicates the position of the bench-mark.	315.70	In the sunken square cut for the purpose on the stone.
180	144.0	G.T.S. at BRIDGE NO. $\frac{M. 15}{8}$. Cut on W. ○ B.M. parapet of an arch bridge, with one opening, 3 chains N. of milestone No. 15.	310.49	Within the circle.
181	145.0	G.T.S. at BRIDGE NO. $\frac{M. 14}{2}$. Cut on S. ○ B. O M. guard-stone of W. parapet of an arch bridge, with three openings, 4 chains N. of milestone No. 14.	320.65	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

Spirit Levelling

No. in Section.		Approximate Distance in Miles from Katni.	No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	134.2	(11 of a f n o A l e t	182	146.2	G.T.S. at BRIDGE NO. $\frac{M. 13}{1}$ Cut on S. guard-stone of W. parapet of a bridge, with two openings, 11 chains N. of milestone No. 18.	318.25	Within the circle.
			188	147.3	G.T.S. at BRIDGE NO. $\frac{M. 12}{1}$ Cut on S. B.M. guard-stone of W. parapet of an arch bridge, with two openings, 24 chains N. of milestone No. 12.	314.49	Ditto.
167	134.8		184	148.3	G.T.S. at BRIDGE NO. $\frac{M. 11}{1}$ Cut on S. B.M. guard-stone of W. parapet of a bridge, with three openings, 22 chains N. of milestone No. 11.	312.46	Ditto.
			185	149.0	G.T.S. O B.M. at MILESTONE NO. 10 from ALLAHABAD. Cut on top of milestone.	311.89	Ditto.
168	135.0		186	149.7	G.T.S. at BRIDGE NO. $\frac{M. 10}{2}$ Cut on S. B.M. guard-stone of W. parapet of an arch bridge, with one opening, 30 chains S. of milestone No. 9.	311.59	Ditto.
169	136.0		187	150.0	G.T.S. O B.M. at MILESTONE NO. 9 from ALLAHABAD. Cut on top of milestone.	310.27	Ditto.
170	136.6		188	150.8	G.T.S. at GHURPUR (CHAK SAMRA BAZAR). This bench-mark is embedded in a block of masonry, 3 feet cube, with its upper surface 4 inches below the level of the ground and covered with earth. It is between a puka well and the road to Allahabad, 3 feet 8 inches from the platform of the well, and 46½ feet from the centre of the gateway of the thāna at the S.W. end of the village. A head-stone, with the letters B.M. engraved thereon, indicates the position of the bench-mark.	309.95	In the sunken square cut for the purpose on the stone.
171	137.0						
173	138.2		189	151.0	G.T.S. O B.M. at MILESTONE NO. 8 from ALLAHABAD. Cut on top of milestone.	312.96	Within the circle.
178	139.0						

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
190	152.0	G.T.S. ○ B.M. at MILESTONE NO. 7 from ALLAHABAD. Cut on top of milestone.	810.73	Within the circle.
191	153.0	G.T.S. ○ B.M. at MILESTONE NO. 6 from ALLAHABAD. Cut on top of milestone.	310.52	Ditto.
192	153.0	G.T.S. ○ at BRIDGE NO. $\frac{M. 6}{1}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with one opening, 14½ chains S. of milestone No. 5.	308.49	Ditto.
193	154.6	G.T.S. ○ at BRIDGE NO. $\frac{M. 5}{1}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with three openings, 33 chains S. of milestone No. 4.	812.04	Ditto.
194	155.3	G.T.S. at MAHÁDEO TEMPLE. Cut on coping of verandah at centre of N.W. side of Mahádeo Temple at Chak Gharibkarpurwa.	315.32	Ditto.
195	155.3	G.T.S. B.O.M. at BRIDGE NO. $\frac{M. 4}{1}$. Cut on S.W. guard-stone of N.W. parapet of an arch bridge, with one opening, 24 chains N. of milestone No. 4.	815.71	Ditto.
196	156.1	G.T.S. ○ B.M. at MILESTONE NO. 3 from ALLAHABAD. Cut on top of milestone.	311.61	Ditto.
197	157.1	G.T.S. ○ B.M. at MILESTONE NO. 2 from ALLAHABAD. Cut on top of milestone.	312.70	Ditto.
198	157.2	G.T.S. ○ at BRIDGE NO. $\frac{M. 2}{3}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with two openings, 10 chains N. of milestone No. 2.	311.85	Ditto.
199	157.9	G.T.S. ○ at BRIDGE NO. $\frac{M. 2}{1}$. Cut on S. B.M. guard-stone of W. parapet of a bridge, with three openings, 10 chains S. of milestone No. 1.	285.57	Ditto.

SECTION—KATNI to ALLAHABAD.

Spirit Levelling

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road vid Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Stat.
166	134.2	G	200	158.1	G.T.S. O B.M. at MILESTONE NO. 1 from ALLAHABAD. Cut on top of milestone.	286.78	Within the circle.
		the lt of a fr an ou A lel tic	201	159.1	G.T.S. at RETAINING WALL. Cut on parapet of retaining wall on N.W. side of a road, 2½ chains W. of S. end of Jumna Bridge.	299.30	Ditto.
			202	159.8	G.T.S. at JUMNA BRIDGE. Cut on parapet of an abutment, 0.90 chain E. of gate. B.M. way of bridge, and 0.88 chain W. of S.W. corner of pumping-engine room.	300.84	Ditto.
167	134.8		203	159.6	G.T.S. at BRIDGE. Cut on plinth at N.E. end of an arch of a railway bridge over road B.M. from Railway Station to Allahabad Fort.	301.84	Ditto.
168	135.0	I					
169	136.0	I	204	160.4	G.T.S. O B.M. at MILESTONE NO. 1 from FORT CANTONMENT, ALLAHABAD. Cut on top of milestone.	291.97	Ditto.
170	136.5		205	161.3	G.T.S. at WELL. Cut on 2nd step from bottom, on S. side of Lala Manohar Dass' park B.M. well, about 10 chains from N.W. gate of Allahabad Fort.	285.44	Ditto.
171	137.0		206	161.4	G.T.S. A B.M. at ALLAHABAD FORT. Cut on plinth of sentry-box outside the outer-works of Fort.	289.03	On dot inside triangle.
172	138.2		207	161.5	G.T.S. at ALLAHABAD FORT. Cut on plinth of sentry-box inside the sally-port. B.M. <i>Note.</i> —This bench-mark is identical with the old point of Section Campore to Allahabad of <i>Spirit Levelled Heights to May 1865 in N. W. Provinces and Bengal, page (21).</i>	298.68	On dot inside square.
173	139.0						

SECTION—KATNI to ALLAHABAD.

Spirit Levelling from Katni along the East Indian Railway to Maihar, thence along the main road viâ Rewah to Allahabad.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
203	161.6	<p>G.T.S. at ALLAHABAD FORT. This bench-mark is embedded in a cylindrical stone, R.M. 7½ inches in diameter, with its surface 5½ inches above the level of the ground. It is within the outer-works, on top of glacis of North-Eastern gate on the city side of the Fort, leading to the main entrance; 3½ feet S. of Saluting Battery, 11 feet N. of scarp of ditch, 12½ feet E. of Traverse wall, 118 feet S.S.W. of sentry-box near sally-port, and 12½ feet N.W. of centre of draw-bridge, leading to Battery No. 4.</p> <p><i>Note.</i>—This bench-mark is identical with the old point of Section Cawnpore to Allahabad of <i>Spirit Levelled Heights to May 1865 in N. W. Provinces and Bengal</i>, page (21).</p>	298.72	On the dot.

DEHRA DÚN,

July, 1900.

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H. L. CROSTHWATT, Lieut., R.E.,

In charge Tidal and Levelling Operations.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

Spirit Levellin

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
166	134.2	G the lt of n fro anc on A let tu	1	0.0	G.T.S. at KATNI RAILWAY STATION ○ (E. I. Ry.). Cut on coping of E. plat- form of East Indian Railway line, in front of Telegraph Office. <i>Note.</i> —This bench-mark is identical with No. 268 of Section Bilaspur to Katni.	1254.08	Within the circle.
			2	0.7	G.T.S. at BRIDGE. Cut on N.E. parapet of a bridge, with one opening, near telegraph B.M. post No. $\frac{305}{8}$, and 30 chains S.E. of Indian Midland Railway Station at Katni.	1255.11	Ditto.
167	134.8	(N.	3	1.1	G.T.S. at KATNI (MURWARA) RAILWAY ○ STATION (I. M. Ry.). Cut on base of B.M. Home Semaphore.	1251.32	Ditto.
168	135.0	H	4	1.8	G.T.S. at BRIDGE. Cut on S. parapet of E. abutment of a girder bridge, with four B.M. openings, over Katni River, and near telegraph post No. $\frac{304}{7}$.	1283.68	Ditto.
169	136.0	H	5	2.1	G.T.S. ○ B.M. at MILESTONE NO. 304 from ITARSI. Cut on top of milestone.	1239.51	Ditto.
170	136.6		6	3.1	G.T.S. ○ B.M. at MILESTONE NO. 303 from ITARSI. Cut on top of milestone.	1245.14	Ditto.
171	137.0	w o I	7	3.5	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with two B.M. openings, over Kuvári nadi, near tele- graph post No. $\frac{802}{10}$.	1249.82	Ditto.
172	138.2	t r	8	4.1	G.T.S. ○ B.M. at MILESTONE NO. 302 from ITARSI. Cut on top of milestone.	1276.84	Ditto.
173	139.0	I	9	4.6	G.T.S. at BRIDGE. Cut on W. parapet of an arch bridge, with one opening, near tele- graph post No. $\frac{301}{8}$.	1262.14	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
10	5.1	G.T.S. ○ B.M. at MILESTONE NO. 301 from ITÁRSI. Cut on top of milestone.	1277.11	Within the circle.
11	5.8	G.T.S. at BRIDGE. Cut on W. parapet of an arch bridge, with two openings, near telegraph post No. $\frac{800}{5}$. ○ B.M.	1294.19	Ditto.
12	6.4	G.T.S. at BRIDGE. Cut on W. parapet of an arch bridge, with one opening, near B.M. telegraph post No. $\frac{299}{11}$.	1278.05	Ditto.
13	7.9	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, between B.M. telegraph posts Nos. $\frac{298}{3}$ and $\frac{298}{4}$.	1249.64	Ditto.
14	8.1	B. ○ M. at MILESTONE NO. 293 from ITÁRSI. Cut on top of milestone.	1252.66	Ditto.
15	8.6	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{297}{7}$. ○ B.M.	1252.41	Ditto.
16	8.9	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, between B.M. telegraph posts Nos. $\frac{297}{2}$ and $\frac{297}{3}$.	1257.38	Ditto.
17	9.2	G.T.S. at BRIDGE. Cut on W. end of S. abutment of a girder bridge, over Loni river, near telegraph post No. $\frac{296}{15}$. ○ B.M.	1261.55	Ditto.
18	9.9	G.T.S. at HARDUA RAILWAY STATION. Cut on base of E. distant signal. ○ B.M.	1274.65	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurvai to Sironj Base-Line.

Spirit Levelling

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	134.2	G I the It of a fro unc our A let tio	19	10.4	G.T.S. at HARDUA RAILWAY STATION. □ This bench-mark is embedded in a block of masonry, 8 feet 4 inches square and 3 feet deep, with its surface 5 inches below the level of the ground and covered with earth. It is on the S. side of the railway line, 8.17 chains from the nearest rail, 8.00 chains from S. corner of station building, 8.61 chains from N.W. corner of station Master's quarters, and 18½ feet from E. side of circular platform of station well. A stone slab, with the letters B.M. engraved thereon, is embedded at the S. end of the bench-mark to indicate its position.	1281.29	In the sunken square cut for the purpose on the stone.
167	134.8	C wi N	20	10.6	G.T.S. at HARDUA RAILWAY STATION. ○ B.M. Cut on base of Home Semaphore.	1285.42	Within the circle.
168	135.0	I II	21	11.1	G.T.S. at BRIDGE. Cut on E. abutment of a counter-sunk rail opening, 2 chains W. of W. distant signal of Hardua Railway Station.	1291.40	Ditto.
169	136.0	I H	22	12.1	B.O.M. at MILESTONE NO. 294 from ITARSI. Cut on top of milestone.	1296.90	Ditto.
170	136.5		23	13.1	B.O.M. at MILESTONE NO. 293 from ITARSI. Cut on top of milestone.	1297.82	Ditto.
171	137.0	w of H	24	14.8	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{291}{15}$.	1298.72	Ditto.
172	138.2		25	15.4	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with two openings, near telegraph post No. $\frac{290}{13}$.	1312.50	Ditto.
173	139.0	ti n F	26	16.4	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{289}{13}$.	1326.02	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road viâ Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
27	17.4	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with two openings, between telegraph posts Nos. $\frac{288}{12}$ and $\frac{288}{13}$. O B.M.	1336.91	Within the circle.
28	17.9	G.T.S. at BRIDGE. Cut on S. parapet of a bridge, with three openings, near telegraph post No. $\frac{288}{3}$. O B.M.	1315.42	Ditto.
29	19.0	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, between telegraph posts Nos. $\frac{287}{2}$ and $\frac{287}{3}$. O B.M.	1378.96	Ditto.
30	19.3	G.T.S. at RÍTHI RAILWAY STATION. Cut on base of E. distant signal. O B.M.	1387.76	Ditto.
31	19.8	G.T.S. at RÍTHI RAILWAY STATION. Cut on coping of platform opposite latrine. O B.M.	1397.59	Ditto.
32	19.9	G.T.S. at RÍTHI RAILWAY STATION. This bench-mark is embedded in a block of masonry, 4 feet in length, $3\frac{1}{2}$ feet in breadth and $2\frac{1}{2}$ feet in depth, with its surface 6 inches below the level of the ground and covered with earth. It is 49 feet 10 inches from the edge of the platform, 11 feet 2 inches from both the N.E. and S.E. corners of the station building, and 2 feet 9 inches from the buttress of the E. wall, on which the letters B.M. have been engraved to indicate the position of the bench-mark. □ B.M.	1397.82	In the sunken square cut for the purpose on the stone.
33	20.4	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{285}{13}$. O B.M.	1386.95	Within the circle.
34	20.7	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with three openings, near telegraph post No. $\frac{285}{7}$. O B.M.	1360.86	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	184.2	G. the lit of a fro and one A lett two	35	21.1	B.O.M. at MILESTONE NO. 295 from ITÁRSI. Cut on top of milestone.	1380.00	Within the circle.
			36	21.3	G.T.S. at BRIDGE. Cut on S. parapet of W. O abutment of a girder bridge, with two B.M. openings, near telegraph post No. $\frac{284}{15}$.	1380.17	Ditto.
			37	23.1	G.T.S. at BRIDGE. Cut on S. parapet of an O arch bridge, with one opening, near tele- B.M. graph post No. $\frac{283}{2}$.	1404.60	Ditto.
167	184.8	G wit No	38	23.4	G.T.S. at BRIDGE. Cut on S. parapet of an O arch bridge, with five openings, near tele- B.M. graph post No. $\frac{282}{13}$.	1404.51	Ditto.
168	135.0	F H.	39	24.1	B.O.M. at MILESTONE NO. 282 from ITÁRSI. Cut on top of milestone.	1399.92	Ditto.
169	186.0	F H.	40	24.8	G.T.S. at BRIDGE. Cut on S. parapet of an O arch bridge, with four openings, near tele- B.M. graph post No. $\frac{281}{6}$.	1392.70	Ditto.
170	186.5	(wi of	41	25.4	G.T.S. at BRIDGE. Cut on S. parapet of E. O abutment of a girder bridge, with one B.M. opening, between telegraph posts Nos. $\frac{280}{11}$ and $\frac{286}{12}$.	1394.72	Ditto.
171	137.0	H	42	27.1	G.T.S. at BRIDGE. Cut on S. parapet of an O arch bridge, with one opening, near tele- B.M. graph post No. $\frac{279}{1}$.	1387.60	Ditto.
172	138.2	' tl w	43	27.3	G.T.S. at BRIDGE. Cut on S. parapet of W. O abutment of a girder bridge, with two B.M. openings, over Budhaina nadi, near telegraph post No. $\frac{278}{14}$.	1387.62	Ditto.
173	139.0	B					

SECTION—KATNI to SIRONJ.

pirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
41	28·4	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a bridge, with five openings, near telegraph post No. $\frac{277}{13}$. O B.M.	1410·41	Within the circle.
45	29·4	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{276}{13}$. O B.M.	1422·61	Ditto.
46	30·5	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with two openings, near telegraph post No. $\frac{275}{10}$. O B.M.	1395·30	Ditto.
47	31·5	G.T.S. at SALAIA RAILWAY STATION. □ This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 4 inches below the level of the ground and covered with earth. It is 50 feet from the edge of the platform, 11 feet 3 inches from both the N. and E. corners of the station building, and 3 feet from the battress of the E. wall, on which the letters B.M. have been engraved to indicate the position of the bench-mark. B.M.	1412·68	In the sunken square cut for the purpose on the stone.
48	31·5	G.T.S. at SALAIA RAILWAY STATION. Cut on base of Home Semaphore. O B.M.	1414·88	Within the circle.
49	32·5	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with three openings, over Pátua River, near telegraph post No. $\frac{273}{11}$. O B.M.	1391·20	Ditto.
50	33·8	G.T.S. at BRIDGE. Cut on S. end of E. abutment of a bridge, with four openings, between telegraph posts Nos. $\frac{272}{14}$ and $\frac{272}{16}$. O B.M.	1414·44	Ditto.

SECTION--KATNI to SIRONJ.

*Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Rail-
Railway vid Bina to Kethora Railway Station, thence along the main road
via Kurwai to Sironj Base-Line.*

Spirit Levelling

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Station.
166	184.2	G.	<i>Branch line to SALAIA G. T. SURVEY STATION.</i>				
		B the It is of a p rior and one A lett tion	1 50	34.5	SALAIA G. T. SURVEY STATION, lat. 23° 49' 51", long. 79° 58' 31". This is a Principal Station of the Calcutta Longitudinal Series—observed in 1827 and 1865—and is situated in the lands of the village of Adhrai, in the Panna State, Baghelkhand Agency, Central India. It stands on the boundary between the Jabalpur District and the Panna State, about 1½ miles to the N.W. of the village of Salaia, and the same distance to the S.W. of the village of Adhrai. The pillar is solid and contains 8 marks, one at the top and the others 3.25 and 5.25 feet respectively below it, and is supported by a circular <i>pala</i> platform of stone, 16 feet in diameter and 14 feet high. The upper mark—stone with the usual circle and dot (○) engraved on it, is flush with the surface of the pillar which is 8 inches above the level of the top of the platform. <i>Note.</i> —The station, when visited by the Levelling Party, was found in good order and the upper mark was connected.	1671.65	On the upper mark.
167	184.8	G					
		with No					
168	185.0	B H.					
169	186.0	I H.	61	83.9	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{272}{5}$.	1427.19	Within the circle.
170	186.5	C with of	52	34.4	G.T.S. at BRIDGE. Cut on N. parapet of L. abutment of a bridge, with one opening, between telegraph posts Nos. $\frac{271}{12}$ and $\frac{271}{18}$.	1443.54	Ditto.
171	187.0	H	53	85.2	G.T.S. at BRIDGE. Cut on N. parapet of E. abutment of a bridge, with six openings, near telegraph post No. $\frac{270}{17}$.	1461.65	Ditto.
172	188.2						
		the m	54	35.9	G.T.S. at BRIDGE. Cut on S. parapet of L. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{270}{4}$.	1451.06	Ditto.
173	189.0	B					

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
55	36.5	G.T.S. at BRIDGE. Cut on S. parapet of E. abutment of a girder bridge, with four openings, between telegraph posts Nos. $\frac{269}{10}$ and $\frac{269}{11}$. O B.M.	1423.44	Within the circle.
56	37.8	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with three openings, near telegraph post No. $\frac{268}{13}$. O B.M.	1283.77	Ditto.
57	37.6	G.T.S. at BRIDGE. Cut on E. end of S. parapet of an arch bridge, with fourteen openings, over Jannaha nāla, between telegraph posts Nos. $\frac{268}{7}$ and $\frac{268}{8}$. O B.M.	1870.45	Ditto.
58	38.2	G.T.S. at BRIDGE. Cut on W. end of S. parapet of an arch bridge, with nine openings, over Panghata nāla, near telegraph post No. $\frac{267}{13}$. O B.M.	1337.17	Ditto.
59	38.8	G.T.S. at BRIDGE. Cut on plinth of S. parapet of E. abutment of a girder bridge, with five openings, over the Bhojikhoh or Bhoja nāla, near telegraph post No. $\frac{267}{4}$. O B.M.	1304.66	Ditto.
60	39.0	G.T.S. at BRIDGE. Cut on N. parapet at W. end of bridge, over the Bhojikhoh or Bhoja nāla, near telegraph post No. $\frac{267}{3}$. O B.M.	1298.90	Ditto.
61	39.4	G.T.S. at BRIDGE. Cut on S.E. end of S.W. abutment of a girder bridge, with two openings, near telegraph post No. $\frac{266}{11}$. B.O.M. 1262.53 (Railway bench-mark).	1278.95	In the rectangle.
62	40.1	G.T.S. at BRIDGE. Cut on centre of N.W. parapet of an arch bridge, with nine openings, opposite milestone No. 266. O B.M.	1243.44	Within the circle.

SECTION—KATNI to SIRONJ.

Spirit Levelling

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	131.2	G 1 the lt. of a fro ant one A let tio	63	40.4	G.T.S. at BRIDGE. Ont on S.W. end of S.E. B.M. parapet of an arch bridge, with nine openings, over Bohora nālā, near telegraph post No. $\frac{265}{11}$. (Railway bench-mark).	1231.94	In the rectangle.
			64	40.9	G.T.S. at BRIDGE. Ont on S. end of W. abutment of a girder bridge, with eight openings, between telegraph posts Nos. B.M. $\frac{265}{4}$ and $\frac{265}{6}$. (Railway bench-mark).	1199.53	Ditto.
167	134.8	G	65	42.1	B.O.M. at MILESTONE NO. 264 from ITABSI. Ont on top of milestone.	1175.61	Within the circle.
		W Nc	66	42.6	G.T.S. at BRIDGE. Ont on S.E. parapet of an arch bridge, with three openings, over Paterla nālā, near telegraph post No. $\frac{263}{10}$. (Railway bench-mark).	1145.38	In the rectangle.
168	135.0	1 H	67	42.9	G.T.S. at SAGONI RAILWAY STATION. B.M. Ont on base of Home Semaphore.	1119.86	Within the circle.
169	136.0	J H.	68	42.9	G.T.S. at SAGONI RAILWAY STATION. B.M. This bench-mark is embedded in a block of masonry, 8 feet cube, with its surface 6 inches below the level of the ground and covered with earth. It is 32 feet 4 inches from the N.E. corner of base of Home Signal, 11 feet 4 inches from both the S. and W. corners of the station building, and 2½ feet from the buttress of the S.W. wall, on which the letters B.M. have been engraved, to indicate the position of the bench-mark.	1146.80	In the sunken square cut for the purpose on the stone.
170	136.6	C W of					
171	187.0	1 H	69	43.9	G.T.S. at BRIDGE. Ont on S.W. end of S.E. parapet of an arch bridge, with six openings, over Padri nālā, near telegraph post No. $\frac{263}{3}$. (Railway bench-mark).	1141.47	In the rectangle.
172	138.2		70	44.5	G.T.S. at BRIDGE. Ont on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{261}{12}$. (Railway bench-mark).	1155.03	Ditto.
173	139.0	th B H					

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kelhora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
71	45.1	G.T.S. at BRIDGE. Cut on S. parapet of □ W. abutment of a bridge, with three 1173.56 openings, near telegraph post No. $\frac{261}{8}$. B.M. (Railway bench-mark).	1170.05	In the rectangle.
72	45.5	G.T.S. at BRIDGE. Cut on S. parapet of an □ arch bridge, with one opening, near tele- 1179.41 graph post No. $\frac{260}{13}$. (Railway bench- B.M. mark).	1175.87	Ditto.
73	47.1	G.T.S. at BRIDGE. Cut on S. parapet of a ○ bridge, with one opening, near telegraph B.M. post No. $\frac{259}{2}$.	1176.12	Within the circle.
74	48.2	B.O.M. at MILESTONE NO. 258 from ITÁRSI. Cut on top of milestone.	1183.76	Ditto.
75	49.4	G.T.S. at BRIDGE. Cut on E. end of S. pa- ○ rapet of an arch bridge, with twenty-six B.M. openings, called the Hardua viaduct, near telegraph post No. $\frac{256}{10}$.	1196.90	Ditto.
76	50.2	G.T.S. at MILESTONE NO. 256 from ITÁRSI. ○ Cut on platform of milestone. B.M.	1159.95	Ditto.
77	50.7	G.T.S. at BRIDGE. Cut on S.W. end of N.W. ○ abutment of a girder bridge, with two B.M. openings, near telegraph post No. $\frac{255}{7}$.	1186.45	Ditto.
78	52.0	G.T.S. at BRIDGE. Cut on S.W. parapet ○ of an arch bridge, with one opening, B.M. between telegraph posts Nos. $\frac{254}{2}$ and $\frac{254}{3}$.	1079.27	Ditto.
79	52.4	G.T.S. at BRIDGE. Cut on S.W. parapet of ○ an arch bridge, with one opening, over B.M. Raksa nála, near telegraph post No. $\frac{253}{16}$.	1081.18	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

Spirit Levelling

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	184.2	G	80	58.0	G.T.S. at GHATERA RAILWAY STATION. O B.M. Cut on base of Home semaphore.	1035.91	Within the circle,
		J the It of a fro am om A let tio	81	58.0	G.T.S. at GHATERA RAILWAY STATION. □ B.M. This bench-mark is embedded in a block of masonry, 3 feet cube with its surface 6 inches below the level of the ground and covered with earth. It is 27 feet from the S.E. corner of the base of the Home Signal, 11 feet 1 inch and 11 feet 2 inches respectively from the N.E. and S.W. corners of the station building, and 2 feet 10 inches from the buttress of the W. wall, on which the letters B.M. have been engraved, to indicate the position of the bench-mark.	1032.01	In the sunken square cut for the purpose on the stone.
167	184.8	C	82	53.6	G.T.S. at BRIDGE Cut on N parapet of W O B.M. abutment of a girder bridge, with eleven opening, over Burma River, near W. distant-signal of Ghatena Railway Station.	1033.97	Within the circle.
168	185.0	J H	83	51.0	G.T.S. at BRIDGE. Cut on S parapet of an O B.M. arch bridge, with one opening, near telegraph post No. $\frac{252}{8}$.	1034.23	Ditto.
169	186.0	J H	84	56.0	G.T.S. at BRIDGE. Cut on S.W. parapet of O B.M. an arch bridge, with one opening, near telegraph post No. $\frac{250}{1}$.	1128.73	Ditto.
170	186.5		85	57.0	G.T.S. at BRIDGE Cut on S. parapet of an O B.M. arch bridge, with two openings, near telegraph post No. $\frac{249}{8}$.	1137.09	Ditto.
171	187.0	H	86	57.2	G.T.S. at BRIDGE. Cut on S. parapet of an O B.M. arch bridge, with one opening, 1 chain W. of milestone No. 249.	1137.54	Ditto.
172	188.2		87	58.6	G.T.S. at BRIDGE. Cut on S. parapet of W. O B.M. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{247}{12}$.	1130.68	Ditto.
173	189.0	I					

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
88	59.3	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near O B.M. telegraph post No. $\frac{246}{16}$	1127.65	Within the circle.
89	59.6	G.T.S. at BANDUKPUR RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 6 inches below the level of the ground and covered with earth. It is 11½ feet from both the N.E. and S.E. corners of the station building, and 2½ feet from the buttress of the E. wall, on which the letters B.M. have been engraved to indicate the position of the bench-mark.	1127.76	In the sunken square cut for the purpose on the stone.
90	59.6	G.T.S. at BANDUKPUR RAILWAY STATION. Cut on coping of platform in front of and 41½ feet from the S.E. corner of the station building.	1127.71	Within the circle.
91	60.2	G.T.S. at BRIDGE. Cut on S. parapet of a girder bridge, with one opening, near O B.M. telegraph post No. $\frac{246}{0}$.	1127.56	Ditto.
92	60.6	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{245}{12}$. (Railway bench-mark).	1128.51	In the rectangle.
93	60.9	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with three openings, near O B.M. telegraph post No. $\frac{245}{6}$. (Railway bench-mark).	1130.56	Ditto.
94	62.2	G.T.S. at BRIDGE. Cut on S. parapet of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{244}{1}$.	1148.41	Within the circle.
95	63.8	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near O B.M. telegraph post No. $\frac{243}{8}$.	1178.55	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

Spirit Levelling

No. in Section.	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
166	131.2	G	96	64.2	G.T.S. ○ B.M. at BRIDGE. Cut on E. end of E. abutment of a bridge, with two openings, near telegraph post No. $\frac{242}{1}$.	1188.49	Within the circle.
		the lt of a fro anc on. A let tio	97	64.8	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{241}{8}$.	1197.49	Ditto.
			98	65.4	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{210}{14}$.	1214.89	Ditto.
167	134.8	C	99	66.6	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{239}{12}$.	1234.62	Ditto.
		w Nc	100	67.4	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of E. abutment of a bridge, with one opening, near telegraph post No. $\frac{238}{14}$.	1284.44	Ditto.
168	135.0	H	101	68.0	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, between telegraph posts Nos. $\frac{238}{4}$ and $\frac{238}{6}$.	1227.62	Ditto.
169	136.0	H	102	68.2	G.T.S. □ B.M. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, 1 chain E. of milestone No. 238. (Railway bench-mark).	1218.62	In the rectangle.
170	136.6	w ol	103	68.6	G.T.S. □ B.M. at BRIDGE. Cut on S.E. parapet of S.W. abutment of a girder bridge, with one opening, between telegraph posts Nos. $\frac{287}{12}$ and $\frac{287}{18}$. (Railway bench-mark).	1208.26	Ditto.
171	137.0	B					
172	138.2	tl n					
173	139.0	I					

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
104	69.2	G.T.S. at DAMOH RAILWAY STATION. 1203.95 B. Δ M. Cut on coping of platform opposite goods shed. (Railway bench-mark).	1201.86	On the head of the arrow.
105	69.2	G.T.S. at DAMOH RAILWAY STATION. □ This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 6 inches below the level of the ground and covered with earth. It is at the S.W. side of the goods shed, 32 feet 8 inches and 4 feet 8 inches respectively from the S. and W. corners, and 3.33 chains from the N. corner pillar of the station verandah. The letters B.M. have been engraved on the S.W. wall of the goods shed to indicate the position of the bench-mark.	1202.87	In the sunken square cut for the purpose on the stone.
106	69.2	G.T.S. at DAMOH RAILWAY STATION. ○ B.M. Cut on base of Home Semaphore.	1202.88	Within the circle.
107	69.9	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near ○ B.M. telegraph post No. $\frac{230}{8}$.	1191.51	Ditto.
108	70.7	G.T.S. at BRIDGE. Cut on S.W. parapet of N.W. abutment of a girder bridge, with one opening, between telegraph posts ○ B.M. Nos. $\frac{235}{10}$ and $\frac{235}{11}$.	1180.45	Ditto.
109	71.8	G.T.S. at BRIDGE. Cut on S.W. parapet of N.W. abutment of a girder bridge, with one opening, near milestone No. 235. ○ B.M.	1179.48	Ditto.
110	73.8	G.T.S. at BRIDGE. Cut on S.W. parapet of S.E. abutment of a girder bridge, with four openings, over Kopra river, near milestone No. 233. ○ B.M.	1171.62	Ditto.
111	73.9	G.T.S. at BRIDGE. Cut on S.W. parapet of an arch bridge, with one opening, near ○ B.M. telegraph post No. $\frac{232}{8}$.	1169.37	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road, via Kurwai to Sironj Base-Line.

Spirit Levelling

No. in Section	Approximate Distance in Miles from Katni.		No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling St.
166	131.2	G 1 the lt of a f fro and one A let tic	112	76.8	G.T.S. ○ B.M. at BRIDGE Cut on S.W. parapet of a bridge, with two openings, near telegraph post No. $\frac{229}{9}$.	1213.71	Within the circle.
			113	77.4	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{228}{16}$.	1211.89	Ditto.
			114	79.2	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of E. abutment of a girder bridge, with two openings, near telegraph post No. $\frac{227}{3}$.	1189.36	Ditto.
167	134.8	(wt Ne	115	79.4	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{226}{16}$.	1187.19	Ditto.
168	135.0	H	116	80.8	G.T.S. ○ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with four openings, near telegraph post No. $\frac{225}{10}$.	1185.47	Ditto.
169	136.0	H	117	82.1	G.T.S. ○ B.M. at BRIDGE Cut on N. parapet of W. abutment of a girder bridge with eight openings, over Sagar river, near telegraph post No. $\frac{224}{3}$.	1180.60	Ditto.
170	136.5	w of	118	84.5	G.T.S. □ B.M. at BRIDGE Cut on S. parapet of an arch bridge, with one opening between telegraph posts Nos $\frac{221}{14}$ and $\frac{221}{16}$. (Railway bench-mark).	1232.36	In the rectangle.
171	137.0	B	119	85.5	G.T.S. □ B.M. at PATHARIA RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 4 inches below the level of the ground and covered with earth. It is 50 feet from the edge of the platform, 11 feet and 12 feet respectively from the N.W. and S.W. corners of the station building, and 3 feet 2 inches from the battress of the N.W. wall of the station building on which the letters B.M. have been engraved to indicate the position of the bench-mark.	1253.73	In the sunken square or for the purpose on the stone.
172	138.2	tl u					
173	139.0	I					

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
120	85.5	G.T.S. at PATHARIA RAILWAY STATION. ○ B.M. Cut on base of Home Semaphore.	1257.29	Within the circle.
121	85.8	G.T.S. at BRIDGE. Cut on S.W. parapet of S.E. ○ B.M. abutment of a girder bridge, with two openings, near telegraph post No. $\frac{220}{10}$.	1255.46	Ditto.
122	87.1	G.T.S. at BRIDGE. Cut on S. parapet of E. ○ B.M. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{219}{5}$.	1289.20	Ditto.
123	87.4	G.T.S. at BRIDGE. Cut on S. parapet of a ○ B.M. bridge, with two openings, near tele- graph post No. $\frac{218}{17}$.	1295.53	Ditto.
124	88.8	B. O M. at MILESTONE NO. 218 from ITARSI. Cut on top of milestone.	1323.78	Ditto.
125	89.9	1864.74 at BRIDGE. Cut on S.E. parapet of G.T.S. S.W. abutment of a girder bridge, with □ one opening, near telegraph post No. B.M. $\frac{216}{9}$. (Railway bench-mark).	1862.29	In the rectangle.
126	90.6	G.T.S. at BRIDGE. Cut on S.E. parapet of □ S.W. abutment of a girder bridge, with B.M. one opening, near telegraph post No. $\frac{215}{18}$. (Railway bench-mark).	1861.96	Ditto.
127	91.9	G.T.S. at BRIDGE. Cut on S. parapet of W. ○ B.M. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{214}{9}$.	1370.22	Within the circle.
128	92.0	G.T.S. at BRIDGE. Cut on S.E. parapet of □ S.W. abutment of a girder bridge, with B.M. one opening, near telegraph post No. $\frac{213}{9}$. (Railway bench-mark).	1371.03	In the rectangle.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethera Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
129	93.5	G.T.S. O B.M. at BRIDGE. Cut on S. parapet of a bridge, with two openings, near telegraph post No. $\frac{212}{16}$.	1377.92	Within the circle.
130	98.4	G.T.S. □ B.M. at GANESHGANJ RAILWAY STATION. This bench-mark is embedded in a block of masonry, 3 feet cube, with its surface 6 inches below the level of the ground and covered with earth. It is in front of the window of the E. wall of the Station Master's office, close to the terminal telegraph post, 55 feet from the edge of the platform, 16 feet 3 inches from the S.E. corner of the station building, the same distance from the N.E. corner pillar of the front verandah, and 5 feet 11 inches from the E. wall, on which the letters B.M. have been engraved to indicate the position of the bench-mark.	1375.21	In the sunken square cut for the purpose on the stone.
131	98.6	G.T.S. O B.M. at GANESHGANJ RAILWAY STATION. Cut on base of Home Semaphore.	1381.16	Within the circle.
132	94.1	G.T.S. O B.M. at GANESHGANJ RAILWAY STATION. Cut on base of W. distant signal.	1366.93	Ditto.
133	91.5	G.T.S. □ B.M. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with two openings, near telegraph post No. $\frac{211}{15}$. (Railway bench-mark).	1359.58	In the rectangle.
134	95.1	G.T.S. O B.M. at BRIDGE. Cut on N. parapet of a bridge, with two openings, near telegraph post No. $\frac{211}{4}$.	1374.68	Within the circle.
135	96.3	G.T.S. O B.M. at BRIDGE. Cut on N.W. parapet of N.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{210}{1}$.	1395.83	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
186	99.6	G.T.S. at BRIDGE. Cut on W. parapet of an arch bridge, with nine openings, near O B.M. telegraph post No. $\frac{206}{14}$.	1481.99	Within the circle.
187	100.4	B. O M. at MILESTONE NO. 206 from ITARSU. Cut on top of milestone.	1504.24	Ditto.
188	100.6	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near tele- O B.M. graph post No. $\frac{205}{13}$.	1505.88	Ditto.
189	102.2	G.T.S. at BRIDGE. Cut on S.E. parapet of a bridge, with six openings, near telegraph O B.M. post No. $\frac{204}{4}$.	1544.29	Ditto.
140	103.0	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with one opening, between telegraph posts A B.M. Nos. $\frac{203}{7}$ and $\frac{203}{8}$. (Railway bench-mark).	1566.37	On the head of the arrow.
141	103.4	B. O M. at MILESTONE NO. 203 from ITARSU. Cut on top of milestone.	1577.60	Within the circle.
142	104.4	B. O M. at MILESTONE NO. 202 from ITARSU. Cut on top of milestone.	1604.92	Ditto.
143	105.7	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near O B.M. telegraph post No. $\frac{200}{12}$.	1600.64	Ditto.
144	106.4	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near O B.M. telegraph post No. $\frac{200}{1}$.	1592.14	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Karwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
145	106.8	G.T.S. at BRIDGE. Cut on S. parapet of W. abutment of a girder bridge, with three openings, over Biás river, near telegraph post No. $\frac{199}{12}$ (Railway bench-mark). A B.M. O	1604.40	Within the circle.
146	107.2	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with three openings, over B.M. Patana nadi, between telegraph posts Nos. $\frac{199}{3}$ and $\frac{199}{4}$ (Railway bench-mark). A B.M. O	1601.47	On the head of the arrow.
147	107.6	G.T.S. at LIDHORA KHURD RAILWAY STATION. Cut on base of E. distant signal. O B.M.	1615.65	Within the circle.
148	108.3	G.T.S. at LIDHORA KHURD RAILWAY STATION. Cut on base of Home Semaphore. O B.M.	1620.01	Iditto.
149	108.3	G.T.S. at LIDHORA KHURD RAILWAY STATION. This bench-mark is embedded in a block of masonry, 8 feet cube, with its surface 6 inches below the level of the ground and covered with earth. It is at the W. side of the station building, 38 feet 5 inches from the N.E. corner of the base of the home signal, 16½ feet from the N.W. corner of the building, 16 feet 2 inches from the S.W. corner pillar of verandah, and 4 feet 2 inches from the W. wall, on which the letters B.M. have been engraved to indicate the position of the bench-mark. O B.M.	1623.92	In the sunken square cut for the purpose on the stone.
150	108.9	G.T.S. at LIDHORA KHURD RAILWAY STATION. Cut on base of W. distant signal. O B.M.	1632.62	Within the circle.
151	109.6	G.T.S. at BRIDGE. Cut on S. parapet of D. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{196}{16}$ (Railway bench-mark). A B.M.	1652.31	On the head of the arrow.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
152	110.6	G.T.S. Λ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{195}{15}$. (Railway bench-mark).	1679.00	On the head of the arrow.
153	111.1	G.T.S. Λ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{195}{6}$. (Railway bench-mark).	1692.32	Ditto.
154	111.5	G.T.S. Λ B.M. at BRIDGE. Cut on S.S.W. parapet of a bridge, with two openings, near telegraph post No. $\frac{194}{16}$. (Railway bench-mark).	1704.45	Ditto.
155	111.9	G.T.S. Λ B.M. at BRIDGE. Cut on S.W. parapet of S.E. abutment of a bridge, with one opening, near telegraph post No. $\frac{194}{9}$. (Railway bench-mark).	1715.24	Ditto.
156	113.0	G.T.S. Λ B.M. at BRIDGE. Cut on S. parapet of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{193}{8}$. (Railway bench-mark).	1720.13	Ditto.
157	113.9	G.T.S. Λ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with two openings, near telegraph post No. $\frac{192}{11}$. (Railway bench-mark).	1726.90	Ditto.
158	114.7	G.T.S. Λ B.M. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{191}{13}$. (Railway bench-mark).	1725.27	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway viâ Bina to Kethora Railway Station, thence along the main road viâ Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
159	115.1	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{191}{6}$ (Railway bench-mark).	1727.87	On the head of the arrow.
160	115.4	G.T.S. at BRIDGE. Cut on S. parapet of an arch bridge, with three openings, near telegraph post No. $\frac{190}{18}$ (Railway bench-mark).	1781.70	Ditto.
161	110.2	G.T.S. at BRIDGE. Cut on S. parapet of a bridge, with one opening, near level crossing and telegraph post No. $\frac{190}{2}$.	1730.34	Within the circle.

Branch line to SAUGOR (SĀGAR) G. T. SURVEY STATION.

$\frac{1}{161}$	116.7	B.M. at BRIDGE, SAUGOR. Cut on S. parapet of a culvert at E gate of G.T.S. Post and Telegraph Office compound. (P.W.D. bench-mark)	1775.68	On the head of the arrow.
$\frac{2}{161}$	117.1	B. 3 M. at BRIDGE, SAUGOR. Cut on a stone embedded in S. parapet of bridge No. 3 at the junction of the roads to Damoh and Rehl.	1774.48	On the figure.
$\frac{3}{161}$	117.5	G.T.S. at BRIDGE, SAUGOR. Cut on W. parapet of bridge No. 5 on the road from Saugor to Rehl.	1795.61	Ditto.
$\frac{4}{161}$	117.7	B. 8 M. at BRIDGE, SAUGOR. Cut on a stone embedded in S.W. parapet of bridge No. 8 on the road from Saugor to Rehl, and near the Mission School.	1810.10	Ditto.
$\frac{5}{161}$	118.0	B. 9 M. at BRIDGE, SAUGOR. Cut on a stone embedded in S. parapet of bridge No. 9 on the road from Saugor to Rehl.	1813.14	Ditto.
$\frac{6}{161}$	118.1	B. 10 M. at BRIDGE, SAUGOR. Cut on a stone embedded in S.W. parapet of bridge No. 10 on the road from Saugor to Rehl.	1850.20	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
$\frac{7}{161}$	118.4	SAUGOR (SĀGAR) G. T. SURVEY STATION, lat. 23° 49' 48", long. 78° 48' 45". This is a principal station of the Calcutta Longitudinal Series—observed at in 1826 and 1864—and is situated on the summit of Bhunria hill, about $\frac{1}{2}$ a mile due E. of Saugor jail and about 2 $\frac{1}{2}$ miles S.E. of the Railway Station. The old mint (now the tahsildār's Kachahri), the Mission School and Police Lines lie at the foot of the hill on the W. side, and the road to Rehlī passes over its S.W. spur, about 250 yards S. of the station. The station consists of a solid pillar 2 feet high, having two marks. The mark-stones laid down in 1826, when visited in 1864, were found untampered with, the upper being accurately plumbed over the lower, and the former was adopted for the new station. <i>Note.</i> —The station, when visited by the Levelling Party, was found protected by a circular masonry pillar 2 feet high with an aperture over the mark for the reception of a pole and brush. The covering was removed to give access to the upper mark-stone, which was found loose and about 1 foot below the present level of the platform, and on the completion of the observations it was rebuilt.	2035.32	This height refers to the upper mark-stone.
162	116.6	G.T.S. at BRIDGE. Cut on S. parapet of a Λ bridge, with one opening, near telegraph B.M. post No. $\frac{189}{16}$ (Railway bench-mark).	1711.17	On the head of the arrow.
163	117.2	G.T.S. at SAUGOR RAILWAY STA- Λ 1697.97 TION. Cut on coping at E. end B.M. of platform. (Railway bench- mark).	1698.73	Ditto.
164	117.2	G.T.S. at SAUGOR RAILWAY STATION. O Cut on base of Home Semaphore. B.M.	1700.50	Within the circle.
165	117.5	G.T.S. at BRIDGE NO. 62. Cut on S. parapet Λ of E. abutment of a girder bridge, with B.M. one opening, $\frac{1}{2}$ chains W. of milestone 1696.49 No. 189. (Railway bench-mark).	1695.76	On the head of the arrow.
166	118.8	G.T.S. at BRIDGE NO. 61. Cut on S. end of B. Λ E. abutment of a girder bridge, with one M. 1684.68 opening, near telegraph post No. $\frac{187}{11}$. (Railway bench-mark).	1683.79	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
167	118.9	G.T.S. at BRIDGE NO. 60. Cut on S. end of L. abutment of a girder bridge, with three openings, over Amuoni nadi, near telegraph post No. $\frac{187}{6}$. (Railway bench-mark). B.M. 1677.65	1676.63	On the head of the arrow.
168	120.1	G.T.S. at BRIDGE NO. 59. Cut on N. parapet of a bridge, with two openings, between telegraph posts Nos. $\frac{160}{7}$ and $\frac{166}{8}$. B.M.	1698.48	Within the circle.
169	121.2	G.T.S. at BRIDGE NO. 58. Cut on S. parapet of L. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{185}{8}$. (Railway bench-mark). B.M. 1685.81	1684.92	On the head of the arrow.
170	122.2	G.T.S. at BRIDGE NO. 57. Cut on S. parapet of L. abutment of a girder bridge, with three openings, near telegraph post No. $\frac{184}{6}$. (Railway bench-mark). B.M. 1650.08	1649.20	Ditto.
171	122.9	G.T.S. at BRIDGE NO. 56. Cut on S. end of L. abutment of a girder bridge, with three openings, near telegraph post No. $\frac{183}{11}$. (Railway bench-mark). B.M. 1646.61	1646.16	Ditto.
172	123.8	G.T.S. at BRIDGE NO. 55. Cut on S. end of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{183}{4}$. (Railway bench-mark). B.M. 1667.96	1667.96	Ditto.
173	123.9	G.T.S. at BRIDGE NO. 54. Cut on S. end of L. abutment of a girder bridge, with one opening, between telegraph posts Nos. $\frac{182}{10}$ and $\frac{162}{11}$. (Railway bench-mark). B.M. 1677.15	1670.45	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
174	124.8	G.T.S. at BRIDGE NO. 53. Cut on S. end B. Δ M. of E. abutment of a girder bridge, with 1685.70 one opening, near telegraph post No. $\frac{181}{10}$. (Railway bench-mark).	1686.17	On the head of the arrow.
175	125.7	G.T.S. Δ B.M. at BRIDGE NO. 52. Cut on S. 1685.49 end of E. abutment of a girder bridge, with one opening, between telegraph posts Nos. $\frac{180}{14}$ and $\frac{180}{15}$. (Railway bench-mark).	1684.81	Ditto.
176	126.7	G.T.S. at BRIDGE NO. 51. Cut on W. end B. Δ M. of S. abutment of a girder bridge, with 1659.11 one opening, near telegraph post No. $\frac{179}{14}$. (Railway bench-mark).	1656.90	Ditto.
177	127.1	1664.95 at BRIDGE NO. 50. Cut on W. end G.T.S. of S. abutment of a girder bridge, with B. Δ M. one opening, near telegraph post No. $\frac{179}{6}$. (Railway bench-mark).	1663.90	Ditto.
178	128.2	G.T.S. at BRIDGE NO. 49. Cut on W. end B. Δ M. of S. abutment of a girder bridge, with 1638.57 one opening, near telegraph post No. $\frac{178}{6}$. (Railway bench-mark).	1637.83	Ditto.
179	128.7	G.T.S. at NARIAOLI RAILWAY STATION. \square This bench-mark is embedded in the B.M. circular parapet wall of the station well, its surface being 1 inch above the coping of the parapet. It is 1.98 and 1.94 chains respectively from the S.E. and S.W. corners of the Station Master's quarters, 4.40 chains from the S.E. corner pillar of the station building, and 2.07 chains from the nearest rail. A block of masonry 3½ feet \times 1½ feet, having a foundation 2 feet in depth, was built up on the outer side of the parapet of the well, flush with the coping, in order to support the bench-mark.	1635.96	In the sunken square cut for the purpose on the stone.
180	128.8	G.T.S. at NARIAOLI RAILWAY STATION. \circ Cut on coping at S. end of platform. B.M.	1638.24	Within the circle.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
181	126.8	G.T.S. at NARIAOLI RAILWAY STATION. O B.M. Cut on base of Home Semaphore.	1639.66	Within the circle.
182	126.9	G.T.S. at NARIAOLI RAILWAY STATION. B. & M. 1636.95 Cut on coping at N. end of platform. (Railway bench-mark).	1638.22	On the head of the arrow.
183	129.2	G.T.S. at BRIDGE NO. 43. Cut on W. end B. & M. 1637.53 of S. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{177}{7}$. (Railway bench-mark)	1636.60	Ditto.
184	129	G.T.S. at BRIDGE NO. 47. Cut on W. para- pet of a bridge, with one opening, near telegraph post No. $\frac{177}{1}$. (Railway bench-mark).	1636.20	Ditto.
185	130.0	G.T.S. at BRIDGE NO. 46. Cut on S.W. B. & M. 1637.06 parapet of a bridge, with one opening, near telegraph post No. $\frac{176}{11}$. (Rail- way bench-mark).	1636.37	Ditto.
186	130.5	G.T.S. at BRIDGE NO. 45. Cut on S.W. B. & M. 1620.67 end of S.E. abutment of a girder bridge, with one opening, near tele- graph post No. $\frac{176}{1}$. (Railway bench-mark).	1620.69	Ditto.
187	131.4	1596.23 at BRIDGE NO. 44. Cut on S.W. end G.T.S. B. & M. of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{176}{8}$. (Railway bench-mark).	1595.27	Ditto.
188	132.7	G.T.S. at BRIDGE NO. 43. Cut on S. end B. & M. 1591.73 of E. abutment of a girder bridge, with four openings, over Dhasan river. (Railway bench-mark).	1591.00	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
189	134.0	G.T.S. at BRIDGE NO. 42. Cut on S. end of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{172}{11}$. (Railway bench-mark).	1598.24	On the head of the arrow.
190	134.4	G.T.S. at BRIDGE NO. 41. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{172}{8}$. (Railway bench-mark).	1591.10	Ditto.
191	135.0	G.T.S. O B.M. at BRIDGE NO. 40. Cut on S.W. end of S.E. abutment of a girder bridge, with three openings, over Sondni nadi, near telegraph post No. $\frac{171}{11}$. (Railway bench-mark).	1593.75	Within the circle.
192	136.0	G.T.S. at BRIDGE NO. 39. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{170}{10}$. (Railway bench-mark).	1608.91	On the head of the arrow.
193	137.0	G.T.S. at BRIDGE NO. 38. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{169}{11}$. (Railway bench-mark).	1631.85	Ditto.
194	137.6	G.T.S. at BRIDGE NO. 37. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{168}{18}$. (Railway bench-mark).	1623.13	Ditto.
195	138.4	G.T.S. at BRIDGE NO. 35. Cut on S.W. end of S.E. abutment of a girder bridge, with two openings, over Sondni nadi, near telegraph post No. $\frac{165}{4}$. (Railway bench-mark).	1623.22	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION,	Height in Feet above Mean Sea Level.	Position of Levelling Staff
106	138.9	G.T.S. at MUNDRA RAILWAY STATION. □ This bench-mark is embedded in the circular parapet wall of the station wall, its surface being $1\frac{1}{2}$ inches above the coping of the parapet. It is $29\frac{1}{2}$ feet and $83\frac{1}{2}$ feet respectively from the N. and E. corners of the water-tank-house, and about 5 chains from the E. corner of the station building.	1636.86	In the sunken square cut for the purpose on the stone.
107	139.0	G.T.S. at MUNDRA RAILWAY STATION. ○ Cat on base of Home Semaphore. B.M.	1631.74	Within the circle
108	139.0	1638.97 at MUNDRA RAILWAY STATION. G.T.S. & B.M. Cut on coping at W. end of platform. (Railway bench-mark).	1633.50	On the head of the arrow.
109	140.0	G.T.S. at BRIDGE NO. 32. Cut on S. end of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{166}{11}$. (Railway bench-mark).	1652.03	Ditto.
200	141.1	G.T.S. at BRIDGE NO. 30. Cut on S. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{165}{11}$. (Railway bench-mark).	1604.38	Ditto.
201	141.5	G.T.S. at BRIDGE NO. 27. Cut on N. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{165}{8}$.	1580.16	Within the circle.
202	141.9	G. & T.S. at BRIDGE NO. 25. Cut on S.W. parapet of an arch bridge, with one opening, near telegraph post No. $\frac{164}{13}$. (Railway bench-mark).	1662.65	On the head of the arrow.
203	144.4	1402.82 at BRIDGE NO. 19. Cut on S. end of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{163}{8}$. (Railway bench-mark).	1461.75	Ditto.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
204	146.2	G.T.S. Δ at BRIDGE NO. 18. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{160}{8}$. (Railway bench-mark). 1435.65 B.M.	1495.45	On the head of the arrow.
205	147.0	G.T.S. ∇ at BRIDGE NO. 17. Cut on S.W. end of S.E. abutment of a girder bridge, with five openings, near telegraph post No. $\frac{158}{12}$. (Railway bench-mark). 1414.65 B.M.	1414.60	Ditto.
206	149.8	G.T.S. ∇ at BRIDGE NO. 15. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{157}{7}$. (Railway bench-mark). 1429.40 B.M.	1429.21	Ditto.
207	150.1	G.T.S. \square at KURAI RAILWAY STATION. This bench-mark is embedded in the circular parapet wall of the station well, its upper surface being 14 inches above the coping of the parapet. It is 1.78 chains S. of E. corner of the wooden railing enclosing the station platform, 3.39 chains S.E. of E. corner of Station Master's quarters, and 0.97 chain E. of telegraph post No. $\frac{156}{9}$. B.M.	1441.49	In the sunken square cut for the purpose on the stone.
208	150.1	G.T.S. \circ at KURAI RAILWAY STATION. Cut on base of Home Semaphore. B.M.	1447.80	Within the circle.
209	150.2	G.T.S. Δ at KURAI RAILWAY STATION. Cut on coping of platform at N.W. end, above ramp. (Railway bench-mark). B.M. 1445.99	1445.73	On the head of the arrow.
210	151.7	G.T.S. ∇ at BRIDGE NO. 12. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{154}{18}$. (Railway bench-mark). 1430.55 B.M.	1430.48	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kunwari to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
211	153.0	G.T.S. V 1429.28 B.M. No. $\frac{163}{11}$. (Railway bench-mark).	1429.10	On the head of the arrow.
212	153.4	G.T.S. V 1414.50 B.M. No. $\frac{163}{4}$. (Railway bench-mark).	1414.51	Ditto.
213	154.0	G.T.S. V 1410.70 B.M. No. $\frac{162}{11}$. (Railway bench-mark).	1410.52	Ditto.
214	155.3	G.T.S. V 1393.40 B.M. No. $\frac{161}{9}$. (Railway bench-mark).	1393.11	Ditto.
215	156.8	G.T.S. V 1369.95 B.M. post No. $\frac{119}{14}$. (Railway bench-mark).	1369.74	Ditto.
216	158.1	G.T.S. V 1373.85 B.M. post No. $\frac{148}{10}$. (Railway bench-mark).	1373.63	Ditto.
217	159.7	G.T.S. A 1381.99 B.M. No. $\frac{146}{16}$. (Railway bench-mark).	1381.64	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
218	160·7	G.T.S. at BRIDGE NO. 4. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{145}{17}$. (Railway bench-mark).	1392·60	On the head of the arrow.
		1392·88 B.M.		
219	161·3	G.T.S. at BRIDGE NO. 3. Cut on S.W. end of S.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{145}{6}$. (Railway bench-mark).	1387·93	Ditto.
		1888·89 B.M.		
220	162·7	G.T.S. at BRIDGE NO. 2. Cut on S. end of E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{143}{8}$. (Railway bench-mark).	1367·46	Ditto.
		1367·76 B.M.		
221	163·5	G.T.S. at BINA RAILWAY STATION. This bench-mark is embedded in the circular parapet wall of the station well, with its surface 2 inches above the coping of the parapet. It is 50 feet 5 inches and 40 feet 9 inches respectively from the N.E. and S.E. corners of the tank-house.	1352·43	In the sunken square cut for the purpose on the stone.
		□ B.M.		
222	163·7	G.T.S. at BINA RAILWAY STATION. Cut on W. end of platform above ramp. (Railway bench-mark).	1353·35	On the head of the arrow.
		B. V M. 89·6281		
223	165·4	G.T.S. at BRIDGE. Cut on S.E. end of N.E. abutment of a girder bridge, with one opening, near telegraph post No. $\frac{141}{4}$. (Railway bench-mark).	1331·53	Ditto.
		B. V M. 1331·80		
224	166·0	G.T.S. at BRIDGE. Cut on S.E. end of N.E. abutment of a girder bridge, with three openings, over Silar nadi, near telegraph post No. $\frac{140}{12}$. (Railway bench-mark).	1331·22	Ditto.
		B. V M. 1331·54		

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff
225	168.7	G.T.S. at BRIDGE. Cut on S.E. end of N.E. D. V.M. abutment of a girder bridge, with four 1853.52 openings, over Bina river, near telegraph post No. $\frac{187}{11}$. (Railway bench-mark).	1338.24	On the head of the arrow.
226	169.5	G.T.S. at KETHORA RAILWAY STATION. O B.M. Cut on N.E. end of platform above ramp.	1331.87	Within the circle.
227	169.5	G.T.S. at KETHORA RAILWAY STATION. O B.M. Cut on base of Home Semaphore.	1332.76	Ditto.
228	169.6	G.T.S. at KETHORA RAILWAY STATION. O B.M. This bench-mark is embedded in the circular parapet wall of the station wall, with its surface $3\frac{1}{2}$ inches above the coping of the parapet. It is 2.23 chains N. of the N. corner of the station building, and about midway between telegraph posts Nos. $\frac{137}{2}$ and $\frac{137}{3}$.	1325.88	In the sunken square cut for the purpose on the stone.
229	170.5	G.T.S. O B.M. at MILESTONE NO. 1 from KETHORA RAILWAY STATION. Cut on top of milestone.	1333.09	Within the circle.
230	171.0	G.T.S. O B.M. at MILESTONE NO. 2 from KETHORA RAILWAY STATION. Cut on top of milestone.	1310.18	Ditto.
231	172.6	G.T.S. O B.M. at MILESTONE NO. 3 from KETHORA RAILWAY STATION. Cut on top of milestone.	1330.51	Ditto.
232	173.5	G.T.S. O B.M. at MILESTONE NO. 4 from KETHORA RAILWAY STATION. Cut on top of milestone.	1309.05	Ditto.
233	174.1	G.T.S. at BRIDGE. Cut on S. parapet of a bridge, with one opening, 3 chains S. of B.M. S.W. bastion of Kurwai fort.	1305.60	Ditto.

SECTION—KATNI TO SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway via Bina to Kethora Railway Station, thence along the main road via Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
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Branch line to \square at PĀRASNĀTH TEMPLE, KURWAI.
B.M.

$\frac{1}{233}$	174.8	G.T.S. \square at PĀRASNĀTH TEMPLE, KURWAI. This bench-mark is embedded in the basement of Pārasnāth Temple (situated in the town of Kurwai) and lies immediately under the <i>chhajja</i> (balcony) of window in the centre of N. wall, 2 feet 9 inches above the level of the road. It is on the S. margin of the road from the fort through the town to Betwa river, 18 feet 10 inches from E. end of basement which terminates at the entrance to the temple, 22 feet 7 inches from the N.W. corner of the temple, and 2 feet 5 inches from the N. wall.	1311.53	In the sunken square cut for the purpose on the stone.
231	176.0	G.T.S. \circ B.M. at MILESTONE NO. 5 from KETHORA RAILWAY STATION. Cut on top of milestone.	1309.96	Within the circle.
235	176.9	G.T.S. \circ B.M. at MILESTONE NO. 6 from KETHORA RAILWAY STATION. Cut on top of milestone.	1262.99	Ditto.
236	177.2	G.T.S. \circ at BRIDGE. Cut on S.W. parapet of an arch bridge, with one opening, at B.M. entrance to Bhaunrāsa Inspection Bungalow.	1300.09	Ditto.

Branch line to BHAORĀSA (BHAUNRĀSA) G. T. SURVEY STATION.

$\frac{1}{236}$	178.8	BHAORĀSA G. T. SURVEY STATION, lat. $24^{\circ} 8' 4''$, long. $76^{\circ} 3' 8''$. This is a principal station of the Sironj Base-line Figure—observed at in 1821, 1826, 1837 and 1861. It is built on a low ridge of sand-stone and is situated in the lands of the town of Bhaunrāsa, pargana Mongaoli, district Itagarhi, Gwalior State. The circumjacent places with their distances and directions from the station are:—Khiriā 1.8 miles, N.E.; Saletra 2.0 miles, S.W.; Sarkandi 1.9 miles, W.N.W.; and Bhaunrāsa town 0.8 mile, E.S.E. The station consists of a square pile of 25 feet side at base, raised to a height of 9 feet, enclosing the central isolated pillar 4 feet in diameter, with three mark-stones, one at top, another 3 feet 8 inches below it, and the third, the lowermost one, at bottom. <i>Note.</i> —The station, when visited by the Levelling Party, was found in good order and the top mark-stone was connected.	1391.37	This height refers to the top mark-stone.
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SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
237	178.9	G.T.S. ○ B.M. at MILESTONE NO. 2 from BETWA RIVER. Cut on top of milestone.	1331.65	Within the circle.
238	179.9	G.T.S. at WELL ○ near milestone No. 3 from Betwa river. B.M.	1337.27	Ditto.
239	180.9	G.T.S. ○ B.M. at MILESTONE NO. 4 from BETWA RIVER. Cut on top of milestone.	1374.70	Ditto.
240	181.9	G.T.S. ○ B.M. at MILESTONE NO. 5 from BETWA RIVER. Cut on top of milestone.	1376.45	Ditto.
241	182.9	G.T.S. ○ B.M. at MILESTONE NO. 6 from BETWA RIVER. Cut on top of milestone.	1389.46	Ditto.
242	183.9	G.T.S. ○ B.M. at MILESTONE NO. 7 from BETWA RIVER. Cut on top of milestone.	1406.81	Ditto.
243	185.3	B. ○ M. at MILESTONE NO. 15 from SIRONJ. Cut on top of milestone.	1414.07	Ditto.
244	187.3	B. ○ M. at MILESTONE NO. 18 from SIRONJ. Cut on top of milestone.	1410.49	Ditto.
245	189.8	B. ○ M. at MILESTONE NO. 11 from SIRONJ. Cut on top of milestone.	1401.85	Ditto.
246	194.5	SIRONJ BASE-LINE N.E. END, G. T. SURVEY STATION, lat. $24^{\circ} 8' 64''$, long. $77^{\circ} 38' 8''$. This is a principal station of the Sironj Base-line Figure, and is situated in the lands of the village of Rājpur, pargana Sironj, Tonk State. The circumjacent villages with their distances and directions are:—Rājpur 0.7 mile, W. by N.; Tāl 1.5 miles, N.E.; Thānarpur and Burchakheri 1.3 miles, E.S.E.; and Seipar 1.9 miles, S.S.W. The station is marked by a pyramidal stone, 9 inches square at top, having a circle and dot (⊙) engraved on its upper surface, sunk on a level with the ground. Over this stands a masonry pillar 3 feet high and 4 feet in diameter, having a mark-stone on its upper surface with the usual circle engraved on it, in the centre of which there is a hole $\frac{1}{4}$ of an inch in diameter and $\frac{1}{4}$ an inch in depth; the upper mark is adjusted 3.117 feet normally over the lower. Around this pillar there is a 14-foot annular wall. The lower dot is the one that was used in the measurement of the base-line.	1479.02	This height refers to the upper mark-stone.

SECTION—KATNI to SIRONJ.

Spirit Levelling from Katni Railway Station (E. I. Ry.) along the Indian Midland Railway vid Bina to Kethora Railway Station, thence along the main road vid Kurwai to Sironj Base-Line.

No. in Section.	Approximate Distance in Miles from Katni.	STATION.	Height in Feet above Mean Sea Level.	Position of Levelling Staff.
		<p>SIRONJ BASE-LINE N.E. END, G. T. SURVEY STATION—(Continued).</p> <p><i>Note.</i>—This bench-mark is identical with No. 56 of Series III of <i>Spirit-Levelled Heights No. 4 Bombay Presidency and Central India Agency, published in 1885</i>. The height given therein refers to the lower mark-stone. The station, when visited by the Levelling Party, was found in good order and the upper mark was connected. On the completion of the observations a rectangular closing pillar 3½ feet in height, capped with a stone 20 inches square, bearing cross lines, the intersection of which is in the normal of the upper mark, was built over the pillar, and the whole covered over by a large pile of stones and earth.</p>		
247	199-2	<p>SIRONJ BASE-LINE S.W. END, G. T. SURVEY STATION, lat. 24° 4' 46", long. 77° 47' 53". This is a principal station of the Sironj Base-Line Figure, and is situated in the lands of the village of Parsora, pargana Sironj, Tonk State. The circumjacent villages with their distances and directions from the station are:—Parsora 1·1 miles, W. by S.; Rasali 8·5 miles, N.N.W.; Ekklod 3·4 miles, E.; and Akodia 1·8 miles, S.E. The station is marked by a prismatic stone 9 inches square at top, having a circle and dot (⊙) engraved on its upper surface, sunk endwise to a level with the ground. Over this stands a masonry pillar 2 feet high and 4 feet in diameter, having a mark-stone on its upper surface with the usual circle and dot engraved on it, adjusted 2·034 feet normally over the lower mark. Around this pillar there is a 1½-foot annular wall. The lower dot is the one that was used in the measurement of the base-line.</p> <p><i>Note.</i>—The station, when visited by the Levelling Party, was found in good order and the upper mark was connected. On the completion of the observations a rectangular closing pillar 3½ feet in height, capped with a stone 20 inches square, bearing cross lines, the intersection of which is in the normal of the upper mark, was built over the pillar, and the whole covered over by a large pile of stones and earth.</p>	1531·09	This height refers to the upper mark-stone.

DEHRA DUN,

July, 1900.

H. L. CROSTHWAIT, LIEUT., R.E.,

In charge Tidal and Levelling Operations.

List of embedded Bench-marks transferred to the care of the Railway or Civil Authorities.

No. in section	G. T. S. Bench-mark at	To whom transferred
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SECTION—VIZAGAPATAM to VIZIANAGRAM.

1	Vizagapatam C. 	Mr. B. Baxter, Executive Engineer, No. 1 Open Line Division, East Coast Ry.
2	" A. 	" "
8	Waltair Railway Station 	" "
16	Simhachalam " 	" "
31	Kottavalasa " 	" "
42	Alamanda " 	" "
58	Vizianagram " 	" "

SECTION—VIZIANAGRAM to RAIPUR.

21	Gajapatinagarum Sub-Magistrate's Court 	Pinninti Adivinaidu, Village Magistrate.
83	Mardam Chattram 	B. Tamminaidu, Village Magistrate.
55	Sáláru Travellers' Bungalow 	P. Venkatasastri, Deputy Tahsildár, Sáláru.
84	Súuki P.W.D. Rest-House 	" "
2 103	Potanghi P.W.D. Rest-House 	P. V. Pantulu, Deputy Tahsildár, Potanghi.
120	Dollámbe Agency Bungalow 	" "
186	Domripút " " 	P. M. Pantulu, Deputy Tahsildár, Koráput.
146	Koráput Travellers' Bungalow 	" "
165	Jeypore Sub-Magistrate's Kachahri 	V. S. Pattnaik, Deputy Tahsildár, Jeypore.
171	Boríguma Agency Bungalow 	" "
173	Naurangapur Police Station 	P. N. Pantulu, Deputy Tahsildár, Naurangapur.
175	Pápadáhandi Agency Bungalow 	" "
178	Dábgau Agency Bungalow 	" "
179	Bijápur " " 	" "
182	Umarkot " " 	" "
187	Bera " " 	" "
191	Raigarh Police Outpost 	" "
193	Joringa 	" "
195	Beral 	Ganpat Rao, Tahsildár, Dhamtari.
200	Siháwa Police Outpost 	" "

List of embedded Bench-marks transferred to the care of the Railway or Civil Authorities.

No. in Section	G. T. S. Bench-mark at					To whom transferred
SECTION—VIZIANAGRAM to RAIPUR.—(Continued).						
206	Gatásili	...	...	...	...	Ganpat Rao, Tahsildár, Dhamtari.
211	Dokál	...	...	...	...	" "
215	Kukrel	...	...	...	...	" "
224	Dhamtari Travellers' Bungalow	...	...	...	...	" "
$\frac{1}{240}$	Kurúd	...	...	...	...	" "
251	Darba P.W.D. Inspection Hut	...	...	...	...	" "
257	Abhanpur Police Thana	...	...	...	...	Raghunáth Rao, Tahsildár, Raipur.
268	Mána Village School	...	...	...	...	" "

SECTION—BILÁSPUR TO KATNI.

7	Ghutku	Railway Station	...	...	District Engineer, B.N. Railway, Biláspur.
23	Kota	"	...	...	" " "
37	Belghána	"	...	...	" " "
55	Khongara	"	...	...	" " "
75	Khodri	"	...	...	" " "
86	Pendra Road	"	...	...	" " "
96	Khairi	"	...	...	" " "
112	Jaithari	"	...	...	" " "
116	Anúppur	"	...	...	" " "
133	Barhár	"	...	...	" " "
148	Sábdol	"	...	...	" " "
171	Ghunghutl	"	...	...	" " "
167	Birsingpur	"	...	...	" " "
201	Kárkeli	"	...	...	" " "
212	Umaria	"	...	...	" " "
228	Chandla	"	...	...	" " "
247	Rupaund	"	...	...	" " "
270	Murwára (Katni) Travellers' Bungalow	...	...	...	Pandit K. R. Anterkar, Naib Tahsildár, Murwára.

List of embedded Bench-marks transferred to the care of the Railway or Civil Authorities.

No. in Section	G. T. S. Bench-mark at				To whom transferred
SECTION—KATNI TO ALLAHABAD.					
18	Jukehi	Railway Station	...	...	Resident Engineer, E.I. By, Satna.
81	Amdāra	"	...	...	" " "
44	Bhadasapur	"	...	...	" " "
55	Manhar	"	...	...	" " "
71	Amarpātan	Travellers' Bungalow	...	...	Kālī Charnn, Asst. Tahsildār, Raibansj-nagar,
85	Mauhdāni	Katra ...	...	...	" " "
105	Babupur	Rāmchandraji Temple	...	...	Rudra Sahai Singh, Tahsildār, Rewah.
118	Rewah	Guest House	...	...	" " "
124	Rampur	Mahādeo Temple	...	...	" " "
183	Mangawān	Travellers' Bungalow	...	...	" " "
145	Garh ...	...	...	...	Hukam Chand, Naib Tahsildār, Tyonthar.
150	Katra	Mahādeo Temple	...	...	" " "
168	Sohāgi	Customs Bungalow	...	...	" " "
166	Surwal	Sarni ...	...	...	M. Musharrāf Ali Khān, Tahsildār, Barah.
179	Jāri	Mahādeo Temple	...	...	Pandit Shiam Narsin, Tahsildār, Kar-chann.
188	Ghurpur	(Chak Samra Bāzār)	...	...	" " "
208	Allahabad	Fort ...	...	...	Cantonment Magistrate, Allahabad.

SECTION—KATNI TO SIRONJ.

19	Harda	Railway Station	...	...	District Engineer, Southern Division, I.M. By.
32	Rīthi	"	...	...	" "
47	Solala	"	...	...	" "
68	Sagoni	"	...	...	" "
81	Ghatara	"	...	...	" "
89	Dandakpur	"	...	...	" "
105	Damoh	"	...	...	" "
119	Patharia	"	...	...	" "
180	Ganeshganj	"	...	...	" "
149	Lidhona	Khurd	"	...	" "

List of embedded Bench-marks transferred to the care of the Railway or Civil Authorities.

No. in Section	G. T. S. Bench-mark at				To whom transferred
SECTION—KATNI TO SIRONJ.—(Continued).					
179	Nariaoli	Railway Station ...	...	...	District Engineer, Southern Division, I. M. Ry.
196	Mundra	" ...	...	...	" "
207	Kurai	" ...	...	...	" "
221	Bina	" ...	...	...	" "
228	Kethora	" ...	...	...	" "
$\frac{1}{233}$	Kurwal,	Parasnāth Temple ...	...	...	Lala Baljnath Sahai, Superintendent of the Kurwal State.

DEHRA DŪN: }
October, 1902.

E. J. CONNOR,
Extra Deputy Supt., Survey of India,
In charge Tidal and Levelling Operations.

